# Networking Performance: A study of the benefits of business networking in the West Midlands

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## Statement of Copyright



Signature:

Date:

# Acknowledgments

*There is no such whetstone to sharpen a good wit and encourage a will to learning as is praise; Robert Asham 1515-1568*

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Roy Broad

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## Abstract

Research on business networks has traditionally focussed on understanding the nature of relationships in networks but seldom the outcomes from business networking activities. This thesis examines the benefits from business networking from the perspective of firms in the West Midlands and explains the factors which improve networking performance.

Networking is hailed by academics and marketing practitioners as a way to improve business performance. Firms are encouraged to invest resources in networking activities, without necessarily being able to measure the result. Researchers following in the 'markets as networks' tradition have identified understanding the benefits from business networking activities as a subject for further investigation.

Using survey data from 298 firms in the West Midlands, the findings show that strength of relationship, planned networking behaviour and networking intensity to be significant indicators of networking performance. Analysis also shows degree of embeddedness to have a mediating effect on networking performance.

This study provides empirical support for the idea that firms which adopt a systematic approach to business networking achieve better outcomes in terms of networking performance when measured as a percentage of sales turnover, compared to firms adopting an ad-hoc approach to networking. This study contributes to the marketing and markets as networks literature as well as advancing the conceptualisation of networking performance measured in terms of sales turnover.

The thesis offers insights from the focal firm's perspective as to why business networking is important and identifies factors which contribute to positive networking outcomes and a measure of networking performance.

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# Chapter 1

# Introduction

**Chapter Content**



## 1.0 Introduction

Networking is a phenomenon that has invaded the business lexicon over recent years but despite its twenty-first century credentials, networking for business is not new. The idea of developing personal contact networks and being introduced to potential clients and suppliers by actively 'networking' is an established business practice. The English proverb 'It's not what you know but who you know' is often quoted in the context of personal advancement (Bush and Hattery 1951). This is an idea linked to the notion that personal relationships and networks have been at the core of business since time immemorial. Carnegie (1934) in his best selling book 'How to win friends and influence people' was an early exponent of the networking concept, offering techniques for handling people and suggesting ways to 'win others over to your way of thinking'.

Today, networking for business is very much in vogue. Networking is hailed by academics and marketing practitioners alike as the new way to improve business performance. For example, Gummesson (2008) suggests that, just as society is based on a

complex network of relationships, so is business and that by actively networking, people can gain a business advantage over their competitors.

It was my experience employed as a divisional director for a large UK based manufacturing group, Wagon Plc, that first alerted me to the idea that salesmen having well developed personal contact networks were more likely to be successful that those who relied on sales leads from generally available sources of information. Since then, the idea that private networks were likely to perform better than public networks has influenced my desire to better understand what makes a high performing business network and whether this can be measured in terms of networking performance (NP).

There are many researchers who endorse the practice of networking for business (Achrol and Kotler 1999; Araujo 2004; Chell 2000; Dennis 2000; Doyle 1995; Easton 1992; Gilmore et al 2001; Ford et al 2003; Håkansson and Snehota 1989; O'Donnell et al. 2001; Ottesen 2004; Swann et al. 1999). However, few researchers have offered an insight as to what constitutes a productive network in terms of networking performance and importantly, how the benefits of business networking might be measured. It is this gap in networking knowledge that first prompted me to investigate business networks, the benefits of business networking and the issues surrounding the measurement of NP.

Therefore, the purpose of this research is to investigate the relationship between networking activities and networking performance, with the objective of developing and testing a model of NP. This study investigates whether firms implementing a systematic

approach to business networking achieve more positive business outcomes, such as an increase in sales, compared to firms who adopt an ad-hoc approach to business networking activities.

From a practical perspective, the problems associated with obtaining financial data from firms in connection with measuring performance are well documented and frequently attributed to issues surrounding confidentiality and non-disclosure (Iacobucci 1996; Lehmann 2004; Rust et al. 2004). There are also methodological issues surrounding the use of financial data as a measure of marketing effectiveness, with Lehmann (2004) suggesting that a balance of financial and non-financial measures might be more appropriate. However, from my experience, it is important to develop an operational indicator of NP based on the economic benefit to the firm to gain credibility at Board level. This is assisted by Medlin (2003), where an economic measure of relationship performance in networks was found to be beneficial. Therefore having an economic measure of performance is considered as being one of the most useful and important indicators in assessing whether networking activities are adding real value to a business (Coviello and Munro 1995; Haynes and Senneseth 2001; O'Donnell and Cummins 1999; Terziovski 2003; Watson 2006). This operational perspective on the value-based measure of NP to the focal firm will be explored further as part of this study.

The idea for the research topic originated from observing executives responsible for selling high value capital equipment. Whilst having responsibility for managing a large sales team, it was apparent that the most successful salespeople were also the most

proficient at creating influential business networks. These people were adept at forming relationships with important connections in their personal networks to key suppliers, consultants, prospects and customers. These individuals made networking look easy and were regarded as consistently high achievers. Their success was not accidental, as these networks were expertly planned and deliberately exploited through active networking. It begged the question; "If more executives deliberately invested time and effort in creating and maintaining strategic business networks, could they achieve better business results, such as higher sales turnover?"

In commencing this research journey, it was found that the study of networks and networking within a business to business (b2b) marketing environment had been popularised by a number of researchers with an interest in the 'markets as networks' tradition within the Industrial Marketing & Purchasing Group (Collinson and Shaw 2001; Dennis 2000; Ford et al. 2003; Gilmore et al. 2001; O'Donnell et al. Tonge 2004). Networking and the practice of business networking has grown in popularity with firms seeking to generate business by referral (Misner and Morgan 2000). Economic policy advisors have been urged by academic researchers to facilitate and promote networks and networking to enhance business performance (Birley 1985; Chell 2000; Ottesen et al. 2004). For example Parkhe et al. (2006, p.560) state "networks are quite literally reshaping global business architecture".

However, little is known about the association between networking activity and firm performance (Dennis 2000; De Propris 2000; Miller 2007; Swann et al. 1999). Measuring

performance in networks is described by Iacobucci (1996) as being suffused with difficulty due to the problems of comparing one network with another. Measuring firm performance within a network is dependent on access to relevant financial information (Terziovski 2003; Watson 2007). This may have deterred researchers in the past but measures of performance in networks have been identified and analysed in a number of studies which will be discussed in the following chapter (Medlin 2003b; Ritter 2002; Wilkinson and Young 2002).

This research is based on an empirical study of the benefits of business networking in the West Midlands region of England. The study examines a number of factors identified as contributing to the strength of business networking relationships, in particular the connection between systematic networking activity and networking outcomes, with the aim of identifying indicators of NP.

### 1.1 Research Objective

In developing the research question, consideration was given to both exigent theoretical and operational aspects of the networking phenomena and how this might be approached from an academic perspective. In this study the term network is used to describe the interconnections between actors at the level of the focal firm Iacobucci and Hopkins (1992) and the term networking is said to encompass all of the interactions of a company or individual in the network (Ford et al 2003, p.178). The primary objective of this research is as follows:-

***To develop and test a model of networking performance, identifying the factors linking network theory and positive business outcomes leading to an increase in sales turnover.***

The research commences with a review of the extant literature to understand the antecedents of business networks and assist in developing a conceptual framework designed to facilitate the study of NP.

**1.2 Network Theory**

The study of social networks and the linkages between micro and macro ties in sociological theory is exemplified by (Granovetter 1973). This when combined with the paradigm of markets as an exchange typified by Bagozzi (1975), together underpin much of the subsequent developments in network theory and the 'markets as networks' approach to understanding the transactional nature of dyadic network constructs (Håkansson 1987).

Early social network analysis is primarily concerned with describing and explaining patterns of social relationships. The resultant network models are used to explain social categories and these studies are applied to a variety of social situations, with the objective of gaining a better understanding of social behaviour. From these studies 'network analysis' evolved, offering the possibility to improve on traditional statistical approaches by modeling networks and mapping the interpersonal ties and their connections (Nohria and Eccles 1992). From this, the roots of what is now termed 'markets as networks' approach can be traced (Granovetter 1985). According to Granovetter, actors are

embedded in a myriad of social relationships and that it is impossible to understand their behaviour without first understanding the relational context in which they function.

The subsequent industrial markets network analysis and the concept of interaction and interdependence in business networks, were identified and developed by the early exponents of the IMP approach to understanding business networks (Ford 1980; Gadde and Mattsson 1987; Håkansson 1982; Mattsson 1985). These researchers recognised that social relationships had an important role affecting business relationships and secondly, that interdependencies and continuity in relationships favour in particular the development of new technical solutions. Together with Mattsson (1985) who developed an analytic framework for understanding network positions and strategic action, these early advocates of studying industrial networks pioneered the development of what was subsequently called the markets as networks approach (Gadde and Mattsson 1987; Håkansson and Snehota 1989; Håkansson and Johanson 1993; Turnbull and Valla 1986).

With its descriptive, mainly case study based approach to research, these early studies on networks within industrial markets presented a different perspective on the previous view of how business networks operate. This body of research loosely grouped under the Industrial Marketing and Purchasing (IMP) research portfolio, provides an important background to the theoretical concepts used in the development of this study.

The development of a conceptual framework to investigate the linkages between networks, marketing and relationships is based on the theory of relationships in networks

(Iacobucci and Hopkins 1992). The Iacobucci study is conceptualised in the framework to provide a method for understanding networks within a marketing context (Iacobucci 1996). Research undertaken within the markets as networks domain recognises the interdependencies, interaction and relationships, as important generic aspects of firms' behaviour and network orientation (Håkansson 1982). This is seen as the focal firm's perspective within the dyadic network construct and was influential in the development of this study.

The study of networks and networking within a b2b marketing environment has been popularised by researchers across a number of research domains, based on marketing, entrepreneurship, SMEs and the markets as networks tradition within the (IMP). Definitions for networks and networking are not always homogeneous or consistent. The network metaphor is arguably a victim of its own success, characterised by numerous interpretations. However, for this study a Business Network is described as a set of two or more connected business relationships in which each exchange is conceptualised as a relationship between the firms' collective actors (Emerson 1981; Miles and Snow 1992). Networking is used to describe forms of interaction between actors and organisations, large and small, with firms engaging in networking activities (Nohria and Eccles 1992).

Networking Performance is taken to mean the combination of the metaphor 'networking' being a collection of 'actors' and their structural connections, linked to 'performance' being the process, manner or execution of the practice of networking.

The term Networking Performance is not exclusive to the practice of networking and should not in this context be confused with the descriptions used for Information Technology networks and network performance. In the development of this thesis, Networking Performance (NP) is defined as the practice of measuring the outcomes of business to business (b2b) networking within a business network.

However, 'networking' is still ignored by many firms, possibly due to a perceived lack of accountability (Rust et al. 2004). It may be that the absence of relevant performance measures can deter firms from considering 'networking' as a credible part of the marketing mix. In fact, according to Rust et al, there is still a wider problem of investment in marketing not being linked to shareholder value and that this lack of accountability can undermine the credibility of marketing activities, including participation in 'networking'. As part of this study, aspects of networking activity will be examined to assess its influence on NP.

Networking for commercial gain is not new. Firms' decisions have always been influenced by people (actors) connected to each other through a system of both formal and informal networks. Networking is said to open firms to their environments and can help to find creative solutions for new ways of working as learning organisations (Achrol and Kotler 1999; Womack et al. 1990). According to Swan et al. (1999) business decisions are based on shared knowledge and it is common for firms to participate in networking and knowledge sharing activities (Cross and Prusak 2002). Firms are said to assess the effectiveness of networking activities by the way in which they in create new

business opportunities Misner (1994) by creating and participating in business networking activities.

However, the outcomes of firm performance from networking have rarely been examined in a quantitative manner. Early research placed emphasis on the context of the network and the environment in which it operates (Eccles and Crane 1988; Ford 1980; Gadde and Mattsson 1987; Håkansson 1982). Whilst this identified some of the more qualitative issues surrounding the interdependency and mutual benefit derived from the network, subsequent research has extended the earlier dyadic studies by investigating the concept of connectedness and relationships within markets, summarised by Iacobucci (1996) and developed within the IMP framework (Araujo 2004; Chell 2000; Healy et al. 2001; Mattsson 1997; Mouzas et al. 2004; Ottesen et al. 2004; Pages and Shari 2003; Stokes and Lomax 2002). These studies primarily investigated the nature of network relationships. Subsequent network analysis has developed from understanding the nature of interconnected actors to recognising the interdependence of complex business relationships, with focus increasingly placed on the importance of understanding and managing these relationships within business networks.

Strength of relationship is therefore seen as an important factor in determining the success of networking activity. Relationships in business develop and evolve over time. Existing theories of network relationships are frequently based upon an understanding of the relevant dimensions of relationship traits, such as trust, commitment and mutual understanding. Whilst these studies present an insight into the social aspects of the

relationship, they often involve only simple exploratory network tasks with low economic benefits. The stronger network ties based on the interactive nature of relationships in networks, where actors participate in collaborative activities associated with achieving economic goals and gaining financial benefits, are more closely identified with contemporary research into business networks and relationship performance (Medlin 2005; Ritter et al. 2004; Rust et al. 2004).

Whilst many contemporary studies have investigated the nature of network relationships, measures of firm performance in networks have moved towards a more analytical assessment of relationship benefits. Evidence has been found of established links between networking activities and business relationships for improving business performance (Ottesen et al. 2004; Terziovski 2003). Relationship performance has been used as the dependent variable for single firm and dyadic network studies (Medlin 2003a). The advantage of an economic focus as suggested by Medlin is that it offers direct performance indicators relative to commercial expectations. This suggests a possible connection between the strength of relationship in a network influencing the activity and the economic outcomes.

The notion of network competence being the outcome of networking activity, is conceptualised by Ritter (2002) as a firm specific characteristic, seen as a two dimensional construct, namely task execution and qualifications. The results of similar research found network competence to be closely linked with market orientation and a firm's overall success (Carson et al. 1995; Freis et al. 2003; Medlin 2003a; Medlin

2003b; Ritter et al. 2004). The dyadic nature of network relationships where actor perceptions differ, presents a problem for researchers seeking a quantifiable approach relying on simple aggregation to analyse actor constructs. Medlin (2003b) offers an insight into network performance based upon firms' perceptions within a single and multi level framework. Medlin (2003, p.5) defines relationship performance as "the perceived economic performance of the jointly acting relationship parties, relative to the expectations in that network", introducing relationship performance as the dependant variable in dyadic studies. The network concepts and outcomes exist within a network environment and together influence the nature of the network exchange from a network perspective.

The markets as networks approach to understanding the variety of resources that can be exchanged is summarised in Iacobucci (1996). The network approach is seen as a set of relationships based upon a number of exchanges, of which the financial and economic exchange is favoured to measure the economic value of the network relationship. The financial benefits of a network relationship are said to be a major factor in describing networking success (Dennis 2000). The positive outcomes of networking activity identified by McLoughlan and Horan (2000) also suggest that the financial aspects of a network relationship are a major factor contributing to networking success. However, the short term nature of economic considerations alone may not be a long term indicator of performance in networks and wider measures involving network characteristics and competence have been sought (Ritter 2002). As a result, it is evident that in developing a new concept called Networking Performance, the construct will be dependent on a

number of factors relating to the perceived economic outcomes of contributing networking activities.

### 1.3 Implications for Management

Whether a firm likes it or not, it is embedded in a network of business relationships. These network relationships can both enable and constrain its performance as it seeks to meet its economic goals. As such, firms are not seen in isolation but as connected in business systems (Håkansson and Snehota 1995). The practice of networking within a business to business (b2b) environment is not new and, judging by the growing number of business networking groups, it is apparently increasing in popularity.

This is particularly evident amongst small and medium sized enterprises (SMEs), where there is considerable anecdotal evidence that active participation in networking activities, also called word of mouth marketing, is seen to be a cost effective method of marketing products and services to prospective customers. There is evidence that 'word of mouth' marketing using more formalised networking techniques, has gained popularity amongst firms seeking a low cost method for generating new business by referral (Wilson 1991). Even a casual search on the internet for 'business networking groups' in the UK shows results on Google (www.google.com) in the millions, with international, national and regional networking groups growing in number and diversity. The development and subsequent evolution of these business networking groups has encouraged more firms to experiment with 'word of mouth' marketing, with the converts to networking able to demonstrate considerable business success (French and Hall 2002). In the case of

Business Network International (BNI) this was measured by the number of business referrals exchanged in the UK and the resultant sales which were £230 million in 2009 (Misner 2010).

This enthusiasm for 'networking' is particularly strong amongst SMEs, where it is thought that limited marketing resource, coupled with the entrepreneurial traits demonstrated by some SME business owners, personal contact networks and social networks using word of mouth 'networking', can be considered an attractive alternative to conventional marketing (Gilmore et al. 2001). This is succinctly summarised by Birley (1985, p.108) as "networking with its emphasis on informality and opportunism would seem to be an ideal mechanism for effectiveness in variable economic conditions." However, these business networks are not static, rather they are constantly evolving and changing as the business needs of the members changes. This is evident in the literature dealing specifically with entrepreneurship, where entrepreneurs are seen to build networks that vary according to the development of the firm. For example, the network exchanges during the planning phase for a new enterprise are significantly different from those required during implementation and early business growth (Greve and Salaff 2003; Pages and Shari 2003). Business networks and networking has been the subject of considerable interest in the marketing literature with leading academics endorsing the development of business networks and the practice of networking in the advancement of marketing strategy (Doyle 1995; Iacobucci and Hopkins 1992; Kotler and Armstrong 1999; Lehmann 2004; Peters 1995; Prahalad and Hamel 1990).

Whilst there is strong evidence for the continued success of business networks, it should also be recognised that there is an equally vociferous body of opinion that is critical of formal network ties and evidence of owner/managers rejecting networking activities for a variety of reasons (Leek et al. 2002).

The reasons for rejecting networking activities are just as important to understand as the apparent benefits. Few contributors to the networking literature are prepared as Granovetter (1973) in his seminal work on the 'strength of weak ties', to recognise that networks are not always beneficial, as they can build barriers as well as help to overcome them. This is a view supported by Chell (2000), who found that owners of small businesses were often sceptical of the benefits of networking and many simply lacked the time required for networking. This research will endeavour to investigate the perceived disadvantages and well as the benefits of b2b business networking in its objective to establish a model of networking performance and the statistical relationship between networking activity and NP.

While the case for SME participation in networking activities is strong, there is less evidence in the literature of large firm (250 or more staff) participation in formal business networking. A superficial examination of various business networking groups' membership lists suggests that whilst there is a bias towards SME and micro enterprises (less than 5 employees), there is strong representation from banks, insurance companies and other financial services agencies (Widgery 2010). It is thought that these firms may have a vested interest in selling their products and services to new business start-ups and

smaller firms in the group. Other categories of firms which are prolific 'networkers' are printers, solicitors, marketing consultants and website designers. A possible explanation for the reduced participation by larger firms is their concern over the observed networking group membership profile compared to the specific marketing goals and the networking characteristics embedded in the subject firm (Cross and Prusak 2002). Large firms are more likely to have their own internal networks embedded within the firm, across sites and across different business functions. Business professions and specialists such as accountancy, human resources, IT, marketing and manufacturing tend to have their own inter-firm networking groups, professional networks, institutions and trade associations. When coupled with membership of organisations like the Chambers of Commerce, Confederation of British Industry (CBI), Business Link and other government backed agencies, these can fulfil many of the business needs using formal networking practice and promoting the associated business benefits.

The most significant change to the practice of business networking for firms over the past decade is the rapid development of the internet and the practical application of websites dedicated to networking activities such as Ecademy (www.ecademy.com), special interest email groups, and more recently, the use of social networking sites for business such as Linkedin (www.uk.linkedin.com), Facebook (www.facebook.com) and Twitter the micro blogging site (www.twitter.com). The application of digital and mobile communications to promote networking activities using social media is still in its infancy but is already being adopted by digital marketers. These firms at the leading edge of digital

communications recognise the benefits of using a digital network, with text, audio, images and now video clips to exchange ideas and information (Broad 2008).

The availability of digital technology may not improve the outcomes of business networking but will certainly increase the speed of network exchanges. The adoption of digital networking is likely to have profound benefits but an equal number of risks for firms experimenting with the technology. Managing corporate reputation on the internet is difficult due to the very 'open' nature of the worldwide web. The rapid expansion of consumer blogs (a contraction of the term "web log") and social networks, is presenting new challenges for firms wishing to exploit new digital media for networking and marketing purposes. However, the underlying social networks theories are thought to apply equally to new networking technologies such as e-mail, business and social media websites, as to more traditional face to face methods of networking and the resultant outcomes in terms of networking performance are equally relevant.

The reluctance of firms to formalise their networking activities, unlike more established marketing and promotional activities, is thought to be due to the lack of apparent accountability according to Iacobucci (1996) in describing the economic benefits of business networks. By seeking to quantify the benefits or outcomes of networking activities, measured as networking performance, it is hoped to demonstrate that it is possible for firms to assess the potential value of business (measured as sales turnover) that may be directly attributed to networking activities. Seeking direct performance measures for marketing related activities has a strong following among an increasing

number of firms, encouraged by the emerging econometric measures linking marketing to firm performance and ultimately shareholder value (Lehmann 2004).

It therefore seems reasonable to seek greater accountability for showing how expenditure on networking activities may result in a directly attributable increase in sales turnover, linking this to a framework used to assess different aspects of marketing productivity (Rust et al. 2004). This may be adapted and developed to examine the outcomes of networking performance. With this information, it should be possible for firms to analyse their own networking performance in the context of their networking activities.

### 1.4 Contribution to the Research

A considerable body of research already exists, yet to contribute to the study of networks and the literature associated with measuring networking activities appears a task suffused with methodological problems when searching for evidence of networking measures and networking performance. Therefore the decision to examine the performance aspects of networking and to establish linkages between networking activity and networking performance is expected to contribute to the understanding of the benefits of networking within the context of business to business marketing and through this add to the wider understanding of relationships in networks. Existing research themes developed within the area of markets in networks that have investigated the outcomes of networking activity in terms of dyadic interactions but have not examined networking performance as a specific measure (Buchel and Raub 2002; Freis et al. 2003; Pages and Shari 2003; Rumyantserva and Tretyak 2003). Similarly, there is a deficit of researchers who have

examined networking performance with a view to establishing quantifiable measures for analysis and evidence of this contributing to business improvement and business growth. However, as recommended by Medlin (2003b) and Ritter (2002), there is opportunity to extend the understanding of networking activities in marketing, through the examination of performance measures in networks.

From the outset, this study has been concerned with the outcomes of business networking activity and the benefits for management. Relatively few researchers have been concerned with the economic benefits of networks, the exceptions include Medlin (2003b); Ritter (2002); Wilkinson and Young (2002). These researchers represent only a small percentage of the estimated number currently researching in the 'markets as networks' approach to understanding networks. Similarly, there has been a shift from the historical mathematical and quantitative methodologies to case study based qualitative research studies, which has not necessarily encouraged research into the economic performance of networks. Network theory has become integrated with other management approaches, including organisation theory, resource dependency and studies of entrepreneurship (Parkhe et al. 2006). This may have contributed to the dilution of the founding disciplines of network theory, with its roots in sociology. However, there is a strong belief that the divergence of network theories has encouraged development of research into the areas of network interaction and relationships (Easton 1992).

Just as the economic benefits of networking may have been ignored at the expense of other networking benefits, so has the connection between networking activity and

networking performance. Indeed, there is a seeming reluctance amongst the markets as networks research community to offer findings based on quantitative measures. This is a criticism levelled against many researchers, with considerable support in the USA for quantitative studies from Clancy and Stone (2005); Rust et al. (2004) and Seggie et al. (2007). But few have addressed the question of why if networking for business has such positive benefits, it is also ignored by so many firms?

This study will examine the issues associated with the benefits of business networking, whilst concentrating on understanding the linkages between networking activities and networking performance. It is hoped that this work will contribute to the marketing and networking literature, with evidence of how firms operate most effectively in the generation of new marketing opportunities by implementing networking strategies within marketing. The establishment of measures of NP should facilitate the process of identifying which network constructs provide the best basis for networking effectiveness. The stronger network ties associated with the interactive nature of relationships and performance in networks has been the subject of research by (Medlin 2005; Ritter et al. 2004; Rust et al. 2004). This research builds on the findings of these studies, with networking activities measured as the economic performance of the jointly acting parties in a business relationship is at the core of this research into NP.

This study will also examine the evidence of the established links between networks, networking activities and business relationships for improving business performance (Medlin 2003b; Ottesen et al. 2004; Ritter 2002; Terziovski 2003). The aim is to build on

the work of these researchers by creating a conceptual model with a view to developing and testing a model of NP. The advantage of an economic focus is that it offers direct performance indicators relative to the commercial expectations of the focal firm. The outcomes should stimulate interest in the possibility of comparing networking activities and networking performance outcomes, contributing to the literature and operational effect effectiveness of networking as a strategic marketing activity capable of encouraging business growth.

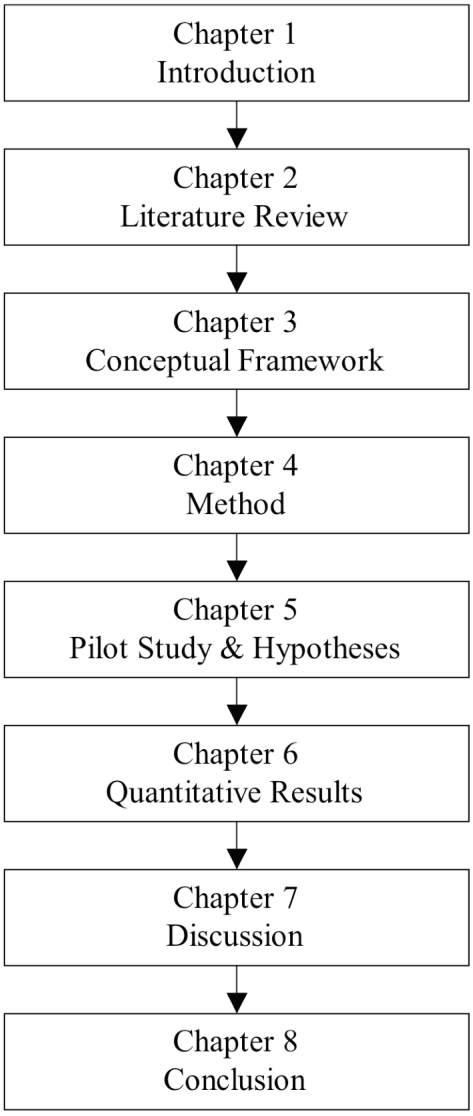
### 1.5 Structure of the Thesis

In deciding the most appropriate structure for this thesis, I have followed the conventions for structure established by researchers examined in the business and marketing disciplines, supported by the approach and examples suggested in the PhD literature (Cryer 2000; Davis and Parker 1997). It is also noted that consistency of style and format is a prerequisite for producing a successful thesis (Perry 1998).

This thesis is divided into eight chapters. After the formal statements and thesis abstract, the structure follows an established pattern of chapters commencing with an Introduction to the research. The thesis continues with a review of the literature, development of a structural framework, the research method used, qualitative and quantitative findings, a discussion on the results. The final chapter is the conclusion, with implications for researchers, managers and policy makers, the unique contribution to knowledge that this thesis makes and recommendations for future research.

**FIGURE 1.1**

**Structure of the Thesis**




**Chapter 1: Introduction.** This is a summary of the research idea, the research objective, theoretical basis, implications for management and the anticipated contribution to knowledge.

**Chapter 2: Literature Review.** This is a comprehensive review of the literature, presenting the theoretical background to the study, examining the development of the networks as markets theory followed by a discussion on the different approach and findings of researchers seeking to measure the performance outcomes of networking relationships and activities. The chapter concludes with a summary of the findings, relative shortcomings in the literature and opportunities for further research.

**Chapter3: Conceptual Framework.** In this chapter, the review of network theory and the markets in networks approach taken from the literature is synthesised to assist the development of a conceptual framework to examine the linkages between systematic networking activity and networking performance, based on the theory of relationships in networks. From this a conceptual model networking performance is developed with a description of the network indicators and theoretical constructs used to describe the dependent variable and the proposed independent variables.

**Chapter 4: Method.** This chapter develops the ideas formed in conceptual framework and describes the method used to select and refine the networking concepts identified in the previous chapter as part of a qualitative pilot study. The chapter describes the process of refining the conceptual model used in the main quantitative survey, with sample characteristics, questionnaire design, data collection, data analysis and the selected measures to test the validity of the developing hypothesis.

**Chapter 5: Pilot study findings and Hypotheses development.** In this chapter, the findings from the pilot study are presented and analysed. The findings are presented and the conceptual model is refined. The findings are used to identify the constructs forming the independent variables from the conceptual framework and the conceptual model is confirmed, with a statement of the hypotheses.

**Chapter 6: Results.** Building on the findings from the qualitative phase of this research, this chapter presents the results from the quantitative phase of the research, using the findings from the main postal survey. A combination of new and existing scales are used to measure the dependent and independent variables. The data are summarised and presented with descriptive statistics and correlations. The hypotheses are tested and the model is estimated. Further analysis includes tests for interaction effect before the model is presented with theoretical implications, a summary and conclusion.

**Chapter 7: Discussion.** The penultimate chapter offers the opportunity to reflect on the theoretical approach and the overall research process. The research findings are discussed in relation to the extant literature, with the implications for knowledge, the implications for theory and the implications for managers.

**Chapter 8: Conclusion.** The final chapter assesses the contribution to knowledge, the contribution to management, the limitations of the research, areas for further research and the final conclusions.

The thesis concludes with a comprehensive list of References and a section allocated for relevant Appendices.

### 1.6 Conclusion

In this opening chapter, the theoretical context and operational issues leading the development of the research idea are described. It is difficult to ignore the attention that the network phenomenon has received from business researchers, yet only a relative few recognise the practice of networking as a cost effective business process. The need to recognise the overall conceptual understanding of the networking ability of firms is echoed by Ritter et al. (2004 p.176), adding "Beside the long-standing interest in understanding networks, interest in managerial aspects of networking is fairly new and diverse", endorsing the idea to gain a greater understanding of the benefits of business networking.

The arguments for business networking are compelling, yet the opportunities to engage in networking activities are still ignored by many firms. This opening chapter has raised a number of questions relating to networking activity and performance, summarised as follows:-

1. Despite the strong evidence of the growth of business networking activity, little is known as to how this impacts on business performance.
2. The considerable body of literature on networks and networking has largely ignored the measurable outcomes of business networking activity and therefore the quantitative business benefits for management are not known.

3. The antecedents of this study are based on the theoretical principles of network theory and the subsequent markets in networks approach to understanding networking processes, which prompt questions relating to networking performance.
4. There is evidence that concepts like networking attractiveness, embeddedness and relationships in networks are closely aligned to networking activity but little is known about their impact on networking performance.

These are the fundamental questions which this study will seek to answer. To understand why some networks perform better than others, we need to first understand what makes a network attractive, why managers should choose to be embedded in a network and the importance that relationships have in creating networks. The notion that firms which have a systemised or structured approach to networking activities achieve better outcomes in terms of networking performance is at the core of this study, which sets out to develop and test a model of Networking Performance (NP).

# Chapter 2

# Literature Review

**Chapter Content**



## 2.0 Introduction

In the previous chapter the background and purpose of this study into systematic business networking activities and specifically the importance of measuring networking performance (NP) was introduced from both an academic and a managerial perspective. In this chapter the antecedents of networks and networking for business are investigated and the outcomes of networking activities are traced through the literature from a marketing perspective. The literature on network theory and its relevance to marketing

will be examined in detail, in particular the study of markets as networks. The application of network theory to understand networks in markets and subsequently relationships in networks, has evolved over the past three decades and is at the theoretical core of this thesis. As the study of industrial and business networks has evolved, the literature has diversified, becoming global in its perspective and recognised as being influential in the development of business networks across many market sectors. This development is seen as significant by many firms seeking a competitive advantage by collaborating together in networks to improve business outcomes. It is suggested that firms which are embedded in strategic networks will enjoy significant market advantages in the future' (Achrol and Kotler 1999).

There is also accumulated evidence of the popularity and growth of business networks from the mainly case-based examinations of inter-firm networking collaboration, collected by researchers (Chell 2000; Dennis 2000; Gilmore et al. 2001; McLoughlin and Horan 2000; Ritter et al. 2004; Wilkinson and Young 2002). These and other studies are recognised within the Industrial Marketing and Purchasing (IMP) domain (Ford and Håkansson 2006; IMP 2009). This interest in the development of business networks has been the catalyst for wanting to understand more about how business networking has developed and the resultant benefits by measuring networking performance. The purpose of this chapter is to trace the origins of the network perspective in business networks and to outline some of the main issues in developing a measure of NP.

Networking is not a new phenomenon and it is important to place the current understanding of business networks in the context of the theoretical development. In this review, the origins of business to business networking studies are considered through the literature on organisation and networking behaviour, drawing on the following theory development:-

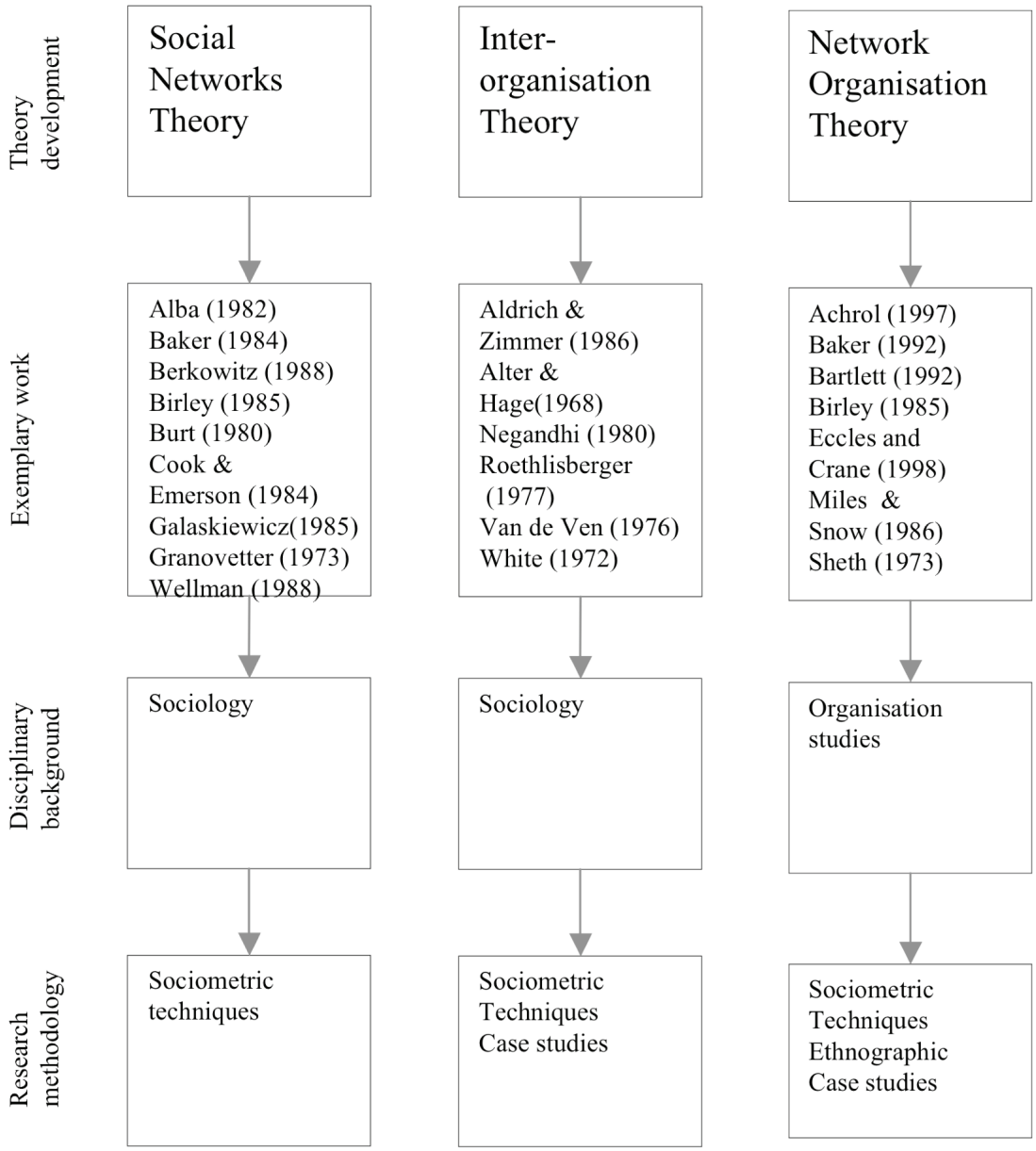
- Social networks theory
- Inter-organisation theory
- Network organisation theory
- Markets as networks
- Relationships in networks
- Actors' network theories

The considerable body of literature on networks provides the foundations for a comprehensive overview of the theoretical background to explaining the various constructs underpinning the study of business networking and measures of NP. In this review, six network approaches are discussed as they are considered important antecedents in the development of current networking practice.

The development of the social network approach is often attributed to structural sociology Wellman and Berkowitz (1988) and the invention of the sociogram designed to model networks mathematically (Alba 1982). While all network approaches are largely indebted to social anthropology and its theoretical antecedents, they have developed along quite distinct and separate lines. A comparison of six network approaches with the dimensions characterising each approach illustrated in Figure 2.1a and Figure 2.1b.

**FIGURE 2.1a**

**A Comparison of Network Approaches**

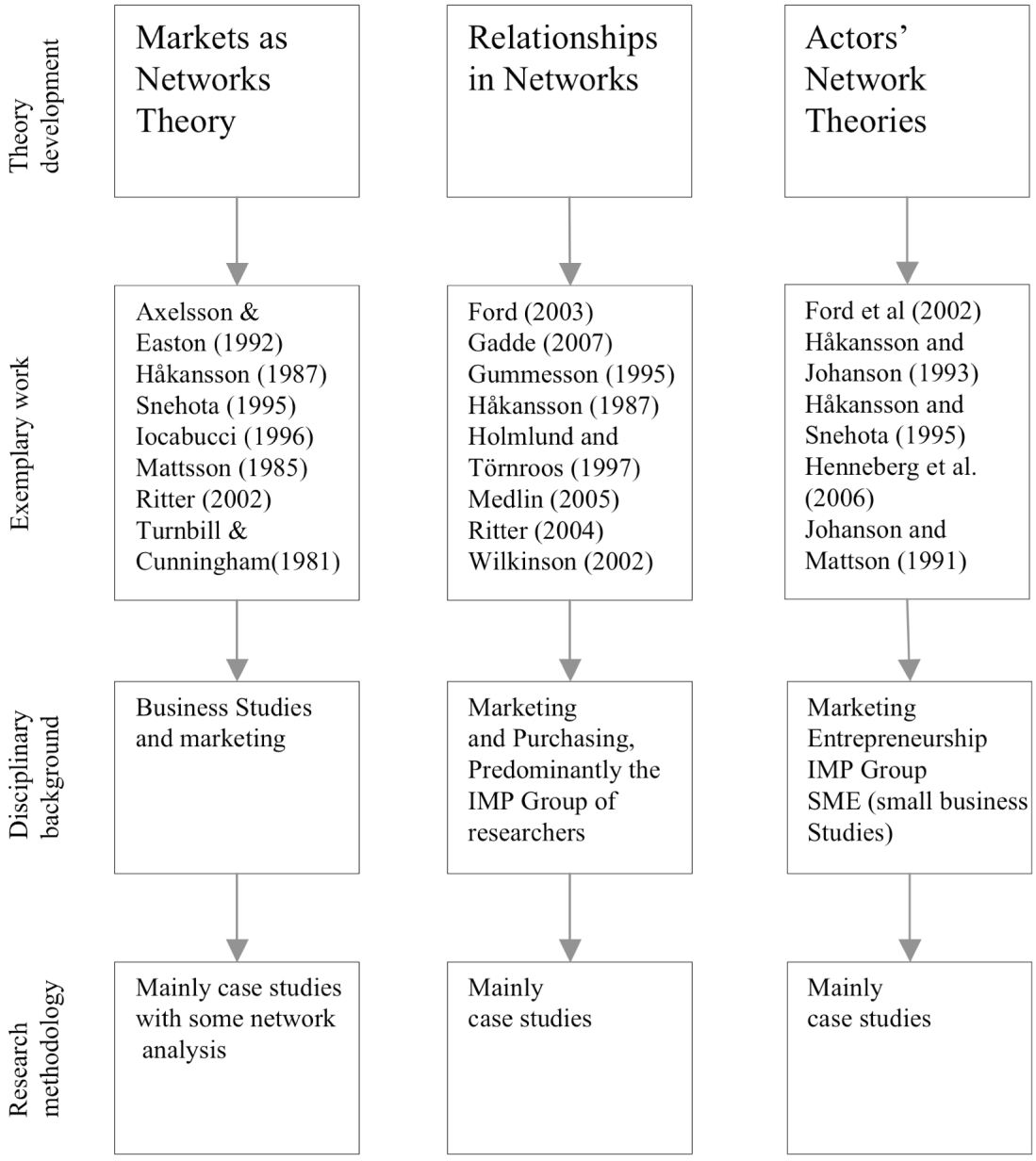



The review of network theories commences with Social Networks Theory, which is generally acknowledged by contemporary researchers to be the precursor to all other network approaches. Whilst the figure suggests a systematic development in

chronological order, there is considerable overlap in the actual development of the different approaches to understanding and describing networks.

**FIGURE 2.1b**

**A Comparison of Network Approaches - continued**



To put the literature review into context, it may be useful to commence with a summary of the various networking terms in common use.

## 2.1 Definition of networking terms

Throughout this thesis several terms describing business networks and networking are used. The noun ‘network’ is the umbrella term widely associated with the study of networks (plural), with the verb ‘to network’ and its participle form ‘networking’, also used to describe the business process of 'networking'. The terms ‘network’, ‘networks’ and ‘networking’ are used extensively throughout this study. To assist in the understanding of their respective theoretical application and use, and to hopefully avoid confusion, it is important to first define their meaning and interpretation:-

### 2.1.1 Network

The word ‘network’ has different meanings:

- As a noun, the word network describes a collection of actors (persons) and their structural connections (Iacobucci 1996).
- A network is also described as ‘A set of units (or nodes) of some kind and the relations of specific types that occur among them (Alba 1982).
- A network is a structure where ‘a number of nodes are related to each other by specific threads’. A business market can be seen as part of a network where the nodes are business units such as producers, customers, service companies and

suppliers of finance, knowledge and influence. The threads are the relationships between the organisations. (Ford et al. 2003).

- A Business Network can be defined as a set of two or more connected business relationships in which each exchange is conceptualised as a relationship between the firms' collective actors (Emerson 1981, Miles and Snow 1992).
- A Business Network may have both a business and a social component but sometimes there is no social component except that the researcher is using relational analogies in the business setting (Iacobucc1 1996).
- A business network is a set of connected actors that perform different types of business activities in interaction with each other (Holmlund and Törnroos 1997).

### 2.1.2 Networking

Networking is associated with, but distinct from the noun network.

- Networking encompasses all of the interactions of a company or individual in the network (Ford et al 2003, p.178).
- Networking is now used to describe new forms of interaction between organisations, large and small, as the boundaries around firms come to be seen as less sharp than was once assumed, with firms engaging in networking activities (Nohria and Eccles 1992).
- Networking is part of the complex and continuous interaction that takes place and the outcomes will often become blurred. Companies learn from networking and

their subsequent choices in networking are affected by how their outcomes develop (Ford et al 3003, p.188).

### 2.1.3 Networking Performance

- For this study, the term 'Networking Performance' is taken to mean the combination of the metaphor 'networking' being a collection of 'actors' and their structural connections, linked to 'performance' being the process, manner or execution of the practice of networking.

Having sought definitions for current networking terms, the literature review continues with an analysis of the six networking approaches presented in Figures 2.1a and 2.1b.

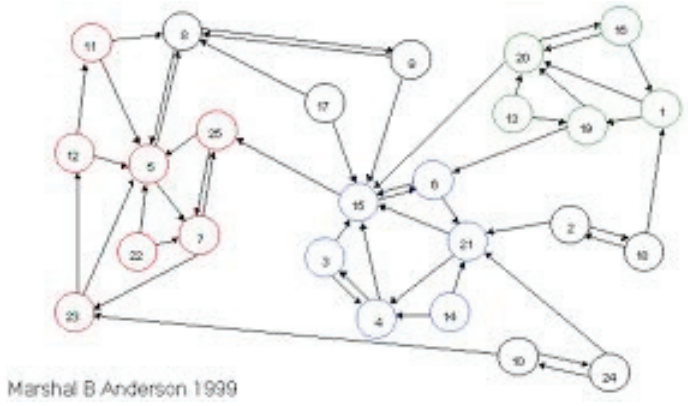
## 2.2 Social Networks Theory

The development of the social network approach to understanding how business networks develop is usually attributed to social anthropology. Social network analysis emerged in the 1950's as a technique to systematically denote patters of ties in tribes or groups of people and is attributed to J A Barnes who expanded the use of network analysis (Burt 1980). Further development in the 1970's of mathematical tools to model networks may be regarded as a branch of structural sociology and is strongly associated with the introduction of the sociogram (Alba 1982). A sociogram is a graphic representation that plots the structure of interpersonal relations of an actor (person) in a complete network or part of a social network, as illustrated in Figure 2.2 below from

(Anderson 1999).

**FIGURE 2.2**

**Example of a Sociogram**




The sociogram analysis has been primarily concerned with describing and explaining patterns of social relationships and the resultant network models used to explain social categories. These studies were applied to a variety of social situations such as private members' clubs, with the objective of gaining a better understanding of social behaviour. Network analysis offered the possibility to improve on traditional statistical analysis but was still primarily concerned with modelling networks and mapping the interpersonal ties and their connections.

The wider application of network analysis techniques attracted the business community which recognised the implications for organisations, appreciating that inter-firm network relationships were largely transactional and based on the idea of a network being an

exchange, with the consequent commercial benefits (Burt 1980). Leveraging social or interpersonal ties for commercial gain is not new. For example many people have relied on social connections to obtain employment Granovetter (1973) or to seek suppliers and customers (Galaskiewicz 1985). In practice, social network analysis has been used to study a variety of topics, including power and centrality in social exchange networks exemplified by (Cook and Emmerson1984), using dependence structures and by extending the dyadic exchange approach to the network level with the concept of connectedness. Two exchange relationships are said to be connected to the extent that exchange in one party is contingent in either a positive or negative way on an exchange in the other party in the relationship (Cook and Emerson 1984).

Other network studies have used both primary and secondary data to examine basic network concepts of organisations using interorganisational analysis, to demonstrate network relationships and the role of centrality on influencing social interaction within networks. There was a belief amongst researchers that social networks theory could be applied to any substantive topic provided there were sufficient secondary data (Galaskiewicz 1985). Other examples of where social networks theory has been applied using network analysis to study the structure of markets and the relationship between industrial sectors are based on resource dependency, population, ecology and institutionalisation (Baker 1984; Birley 1985; Burt 1980). Burt is chiefly concerned with the development of measures of structural autonomy as the outcome of firms' interorganisational relationships, ignoring the wider interdependencies of the actors in the network. Meanwhile Baker (1984) looks at the social networks underpinning the

operation of financial markets and their impact on customer dynamics and price volatility, in this case ignoring the effect of relationships within the network structure.

Despite the progress made by social network analysis and the development of increasingly sophisticated data analysis techniques, there is a strong sense that social networks theory was overly dependent on structural analysis at the expense of any behavioural characteristic. Easton and Araujo (1994) argue that the primacy of structure over process and the tendency to conflate social structures and the categorical approach to social sciences, led to an unwarranted assumption of isomorphism between position in social structure and the interests of belief systems. This has been a frequent criticism of social networks theory in organisational studies (Aldrich and Zimmer 1986). Similarly, the structural forms of analysis are poorly equipped to explain how structures are created, reproduced and transformed by the behaviour of actors embedded in the social network. Social network analysis tends to view network actors' positions as fixed rather than constantly changing though a series of opportunities and constraints (Wellman and Berkowitz 1988). What social network analysis lacks in theoretical power to illuminate the construction of cultural symbols in networks, it does compensate for by bringing network concepts to account in the development of subsequent studies (Iacobucci 1996).

Even with the apparent criticism and limitations, social networks theory has encouraged the development of data analysis techniques and provided the theoretical basis for the development of subsequent network theories. The current networks as markets and relations in networks theorists seldom acknowledge the important role that social

networks theory has played in the development of current theory and practice. However, despite the overlap with organisational studies, researchers aware of the limitations of social networks theory due to its perceived dependence on rigid structural and analytical techniques, looked towards emerging interorganisation theory to explain the nature of organisational networks.

It is also important to recognise the importance that the application of social networks theory had on the subsequent study and development of industrial networks (Easton and Araujo 1994; Iacobucci and Hopkins 1992). It is equally important to recognise how influential social networks theory has been on understanding business networks through the wide dissemination of social networks concepts in applied sociological journals and edited volumes (Nohria and Eccles 1992). In the following section the emergence of interorganisation theory is discussed as it relates to network studies.

**2.3 Interorganisation Theory**

In the 1970's a group of researchers with interests in understanding how networks worked within a wide spectrum of organisations ranging from public administration and not for profit organisations to commercial entities, developed what is now recognised as the network approach to interorganisational relations in networks, subsequently termed Interorganisation Theory (Negandhi 1980).

To understand Interorganisation Theory, it is important to appreciate its origins in organisation theory (Aiken and Hage 1968). In the field of organisational behaviour, the

concept of interorganisation theory describing and emphasising the nature and importance of informal networks of relations in organisations is attributed to Roethlisberger and Dickson (1939). Roethlisberger and Dickenson believed that organisations and the behaviours exhibited in them were such 'elusive phenomena' that one could never hope for a definitive theory in the field. All one could expect from studying organizational behaviour was the benefit of a perspective or a framework that could be used like a 'walking-stick' to support and navigate one's inquiry through the treacherous terrain of organizations, cited in Nohria & Eccles (1992, p.5). Nohria and Eccles suggest that a network perspective is likely to hold up well in the intellectual enquiry of organisations, adding; 'the concept of networks and organisations has occupied a prominent place in such diverse fields as anthropology, psychology and sociology'.

Nohria and Eccles (1992) believe there are three reasons behind the increased interest in the concept of networks. Firstly, the emergence of what Best (1990) labelled the 'new competition' of small entrepreneurial firms seeking a competitive advantage by intra-firm collaboration. This new competition has been contrasted with the old in one important way. If the old model of organisation was the large hierarchical firm, the model of organisation that is considered characteristic of the new competition is a network of lateral and horizontal inter-linkages within and among firms. A second reason for the increased interest in networks and organisations has to do with technological developments. New information technologies have made possible an entirely new set of more disaggregated, distributed and flexible marketing, production and distribution

arrangements, as well as new ways for firms to organise their internal operations and their ties to firms with which they conduct transactions. The maturing of network analysis as an academic discipline is a third reason offered by Nohria and Eccles (1992) for the increased trend toward viewing organisations as networks. The development of interorganisational theory was championed by Harrison White (1972) and associates at Harvard, who developed a formal apparatus for thinking about and analysing social structure as networks and acting as ambassadors for the field, supported by a large number of researchers and the ensuing body of literature (Nohria and Eccles1992).

The concept of the network organisation may be placed in the context of emerging debates in organisational theory (Baker 1992). A number of organisational theories can be used to explain the emergence of the network organisation. Traditional theories of organisational management advocated that scientific principles could be applied to develop techniques to maximize the efficiency of the organisation. It was partly attempts to extend the insights of early organisation theory that led to the subsequent emergence of 'interorganisational relations'. An example of an early attempt to conceptualise the interorganisational nature of relationships is described by Van de Ven (1976). This suggests that interorganisational networks of organisations could be formed to deal with a range of short or medium term issues, such as public health matters in a civil administration.

Networks emerge as a purposeful social system aimed at coordinating a range of disparate resources to deliver essential services, such as local authority and health services. The

lessons learned from the interorganisational approach have been analysed and applied by subsequent researchers to a wide spectrum of organisational and management issues. Measures of network effectiveness and efficiency were developed as a means to assess the derived benefit from this interorganisational cooperation. Concern with network effectiveness and comparative studies on network efficiency became increasingly popular among the network theorists. Interorganisation theory adopted social network concepts such as network centrality and resource dependency to develop its own theoretical vocabulary (Galaskiewicz 1985; Wellman and Berkowitz 1988).

Widening the scope of interorganisational theory, Aldrich and Zimmer (1986) identified dimensions for interorganisational relations (organisation sets, action sets and networks) described as leaving a lasting imprint on all branches of network inspired theory (Araujo and Easton 1996). The concern with resource flows and interdependencies between organisations, are said by a number of researchers to place organisational theory in close proximity to resource dependency theory (Pfeffer and Salancik 1974). Aldrich (1979) is concerned with resource dependency and interorganisational relations, producing strategies for coping with interorganisational interdependencies and networks of economic power. Together, these studies have left a lasting legacy for the future development of networking theory, interdependence and interorganisational relations (Uzzi 1996).

It would be easy to bypass interorganisation theory on the journey to understanding network theory development but this would be a pity. The principal researchers cited in

this section identify many of the softer networking characteristics such as interdependence and relations, which while lacking in pure social networking theory, are important to organisation theory. It is this view of 'interdependence' which has extended the application of the networking perspective found in organisational theory, even though they are based on nonprofit organisations and government agencies, it is relevant to different types of organisations, including commercial firms. Organisation theory is arguably influential in the development of subsequent network approaches, as it placed importance on the relationships between organisations. It is this focus on relationships in networks which is considered important to the subsequent development of the interaction or markets as networks approach, to be considered later.

### 2.4 Network Organisation Theory

From the 1980's there has been increasing interest in network organisation forms and theory, with a number of researchers forecasting the emergence of network organization theory in a variety of publications (Baker 1992; Eccles and Crane 1988; Galaskiewicz 1985; Miles and Snow 1986). The development of network forms in organisation stemmed from the desire to explain networks within internal processes, their open structures, flat organisations and loose forms of control. This was applied to internal networks and external networks of suppliers with growing interest in managing external networks of outsourced contractors which emerged during the 1980's (Galaskiewicz 1985).

The contrast between the stable networks examined through sociometric techniques and the dynamic networks could not be greater. Social network theory has been criticised for treating all actors as equal, whereas in reality networks are inherently fluid structures, constantly changing and evolving as actors align themselves behind specific interests (Baker 1992). This led to problems of agreement on terminology and clarity of purpose, with a lack of credibility amongst more traditional network theorists. The simple fact is that the emerging organisational types and management styles demanded a fresh approach to understanding how these new networks operated. Firms were attempting to re-invent themselves and demonstrated an increasing capacity for self-design and flexibility to absorb heterogeneous or volatile demand by engaging in long term relationships with a range of subcontractors and suppliers (Baker 1992; Galaskiewicz 1996).

Network organisation theory was out of necessity an evolutionary phenomenon as business and organisational environments were changing at a faster rate than witnessed in the post war years. This was exemplified by Miles and Snow (1986) who identified deficiencies in traditional methods for describing business networks and sought a method better suited to the new environmental demands of the organisation in the1980's. Baker (1992) amplified this, arguing that the new network organisation is one which can accommodate the classic horizontal differentiation and vertical integration. Unlike a bureaucracy, which has a fixed set of relationships for processing all types of problems, a network organisation is said to mould itself to each problem (Baker 1992).

Network organisations tend to evolve rather than be structurally planned in the traditional sense but are recognised for their high degree of integration, strengthening relations both horizontally and vertically throughout the network, connecting formal groups and reinforcing bonds within the wider network (Eccles and Crane 1988). Wayne Baker in (Nohria and Eccles 1992) studied a real-estate agency that was set-up as a network organisation using a variety of network analysis techniques. Baker (1992) found that the agency was moderately well integrated in the horizontal plane but that this was more than compensated for in the way it was vertically and spatially integrated. This 'flat' organisation made it extremely responsive to unique customer projects, bringing together suppliers within the loose network to meet customer specific demands in what is described as 'turbulent' environment. The economic situation and environmental conditions described by Baker (1992) which encouraged the development of the network organisation, with the consequent benefits of efficiency of scale and responsiveness to customer requirements, were close to those reported earlier by (Eccles and Crane 1988). Once again, detailed analysis of the complex network structures and network forms which had developed to meet the needs of this fast changing sector in the 1980's demonstrated just how effective these organisations were in creating networks with the necessary external ties to respond quickly to investment opportunities. These teams were largely self-constituted and were labeled by Eccles and Crane (1988) as being 'self designing networks', characterised as being flat network organisations, recognised for their flexibility in meeting complex situations in a turbulent environment, which thrived on conflict. These are typically teams of specialists whose composition may vary over time, being brought together in a network to meet a market situation and disbanded when

the task or deal is complete. These network forms are typified by the network organisation described by Birley (1985) as being entrepreneurial in nature and largely self constituted, where the network boundaries are being continually redrawn to meet changing parameters.

Whilst extolling the virtues of the network organisation and the emergent network organisation approach, these network forms also have their critics. Miles and Snow (1986) point out that 'network organisations' also have their 'dark side' where the networks themselves become self serving at the expense of the host organisation. Easton and Araujo (1994) consider network organisation theory to be problematic because all organisations can be treated as networks, with various links connecting actors, and that proponents use network theory to explain internal processes within an organisation. Easton and Araujo (1994) conclude that network organisations generally mean the introduction of flat management structures and the use of hybrid and relatively loose forms of control, or the disaggregation of the firm by outsourcing activities to a favoured number of suppliers, rather than the lean, entrepreneurial and responsive network organisation that was originally envisaged.

The network organisation approach is typified by the Swedish retailer IKEA in a case study published by Ford et al. (1998). IKEA depended on a small number of Scandinavian suppliers for its paper products but in a drive to be more sensitive to the environment wanted to reduce the amount of chlorine used in the production of pulp for its paper. IKEA's producers refused to comply with the demand as it would add cost to

the production of paper. IKEA felt trapped by its present network position and sought a solution outside its supplier network. By engaging with manufacturers of print presses and other paper suppliers, it was able to gain a technological and environmental advantage by creating a new network organisation based on its size and leading position in the market for chlorine free, recycled paper and print. The IKEA case clearly illustrates the influence a leading retailer has over the suppliers in its network and suggests that the network organisation may be managed, or as in this case re-positioned (Ford et al. 1998).

As with the similar approach to understanding innovation networks, or other technical collaboration networks, critics of the network organisation theory question the terminology associated with this kind of network collaboration and its lack of precision (Achrol 1997). The traditional vertically integrated, multi-divisional organisation so successful in the twentieth century, is unlikely to survive in the next but will be replaced by the network organisation, consisting of large numbers of functionally specialised firms tied together in cooperative exchange relationships (Achrol 1997; Achrol and Kotler 1999). This was the network paradigm heralded at the start of the twenty first century that recognised the earlier work of Miles and Snow (1986) as being one of the pioneers in the development of the network organisation. However, the evolvement of network organisation theory was to be superceded by network theories which better explain the nature of the network exchange and relationships in that exchange. The pace of change and the magnitude of the socioeconomic challenges facing all types of organisation has been the catalyst for the wider recognition of the network organisation as a viable strategy for survival in difficult economic times (Jiang et al. 2009). As a result,

researchers like Kalantardis (2009) are now inclined to consider a retrospective appreciation for the work done by the early pioneers of network organisation theory (Baker 1984; Eccles and Crane 1988; Miles and Snow 1986).

### 2.5 Markets as Networks

Researchers in marketing and organisational studies have routinely employed social networking approaches to study networking behaviour, using concepts such as density, connectivity, centrality, cohesion and social distance in studying inter-organisational networks and networking relations. In the quest for a more holistic approach to understanding business networks, there was a move away from the formal descriptions of network structures to testing substantive theory using a greater range of network variables, in what Galaskiewicz (1996) describes as the new network analysis. With the focus on the organisational aspects of networking, there was a change from seeing networks as rigid structures placing constraints on action and determinates of behaviour to viewing them as more flexible, progressive, opportunity structures, where network actors can further their own interests and pursue organisational goals. Previous theories discussed in this review such as Interorganisation theory, had framed social networks as 'informal social structures' operating in the shadow of formal bureaucratic structures. With the markets as networks perspective, the network structure is seen as an integrated governance structure, a network of enablement rather than a network of constraint. The roots of what is now termed the markets as networks approach can be traced back to Granovetter (1985). The premise is that actors are embedded in a myriad of social

relationships and that it is impossible to understand their behaviour without first understanding the relational context in which they function.

The concept of interaction and interdependence in business networks was identified and developed by researchers in Sweden and England concerned with what is known as the industrial networks approach (Ford 1980; Gadde and Mattsson 1987; Håkansson 1982; Turnbull and Cunningham 1981). They recognised that social relationships had an important role and that this affected business relationships. Further, they recognised that interdependencies and continuity in relationships favour in particular the development of new technical solutions and business processes. Together with Mattsson (1985) who developed an analytic framework for understanding network positions and strategic action, these early advocates of the markets as networks approach sought answers for the industrial environment in Scandinavia, where inter-firm cooperation was essential to compete effectively in international markets (Gadde and Mattsson 1987; Håkansson and Snehota 1989; Turnbull and Valla 1986). This approach also found support in England with Turnbull and Valla (1986) from which the gradual development of the markets as networks approach with its descriptive rather than prescriptive managerial focus presented a different perspective on business networks.

The interaction approach to describing industrial markets started informally in 1976 initiated by Ford (1980) as an association of academic researchers, which became known as the Industrial Marketing and Purchasing (IMP) group. IMP has grown over the ensuing years to become a large informal network of researchers who favour the less

rigid, more informal approach to describing networks. This is in contrast to the United States where the majority of marketing academics favoured the more formal discipline and application of statistical and quantitative methods, which they argue allows for faster transfer of theoretical ideas to management practice as acknowledged by (Wilson 1995). There are exceptions to this apparent geographic demarcation in theoretical perspectives on markets as networks. For example Iacobucci (1996) who has bridged the theoretical divide between the more polarised views expressed on both sides of the Atlantic Ocean, together with Australian based researchers Medlin (2003a) and Wilkinson and Young (2005). The markets as networks theoretical approach has quickly gained acceptance throughout Scandinavia and Europe with support found in the Far East and Australasia.

The provenance of the network approach to markets can therefore be traced to the study of dyadic relationships in industrial markets and the consequent social exchange or connectedness of exchange relationships. The introduction of the concept of connectedness permitted a move away from simple dyadic analysis towards a greater understanding of the impact of indirect relationships and system-wide effect on individual network relationships in the network exchange (Bagozzi 1975). The idea of a network exchange has been researched and further developed by (Anderson and Håkansson 1994; Axelsson and Easton 1992; DeRaffele and Hendricks 1988; Easton and Araujo 1994; Gummesson 1995; Håkansson and Snehota 1989; Johanson and Mattson 1992).

Håkansson and Snehota (1995) attribute the existence of a network to the effects of connectedness in business relationships suggesting the existence of an aggregated network structure, a form of organisation described as a 'network'. The network structure appears as a series of interconnected episodes through the enactment of the constraints and opportunities experienced by the actor as a result of the sum total of the relationships she or he is engaged in. At the same time the network structure is continuously changing and being reproduced through the interaction episodes initiated by the connected actors. Håkansson (1987) suggests that the network is the framework within which the interaction takes place but is also the result of the interaction itself.

Therefore markets as networks are viewed as a series of interacted as well as enacted engagements in a common environment. Axelsson and Easton (1992, p.22) endorse this; "It is only with change that network properties like connectedness and indirect relationships are manifest." Indeed, the bulk of the vast library of empirical work undertaken within the realm of the industrial and markets as networks tradition is concerned with change, particularly technological change and its impact on industrial and business networks.

Considerable research has centred around the Actors-Resources-Activities model developed by Håkansson and Snehota (1989). This is framed at a high level of generality and its complexity derives from the conceptual interdependence and interaction between the constituent elements. Within the ARA model, each actor is characterised by its control over certain resources/activities, linked to other actors through exchange relations

and mutuality (Håkansson and Johanson 1993). From this the notion of the network as an exchange was reinforced, with the perception of actors influenced by common interests, e.g. economic, knowledge and other value dimensions.

The idea of a network being an exchange is supported by Bagozzi (1975). Bagozzi sees the exchange paradigm as a framework for conceptualising marketing behaviour and as a way of understanding why people engage in exchange relationships and how exchanges are created, resolved or avoided. Håkansson and Snehota (1995) extended the markets as networks view to encompass and identify a wider range of resources that can and are exchanged in business networks, as follows:-

- **Financial and Economic Exchange**; The economic value of relationship in business is arguably the most compelling and most business networks have either a financial or economic dimension. The economic value of the network relationship gives an important indication of the value that the parties to the exchange are likely to place on it. The financial or economic exchange may not be exclusive and may be affected by other factors in the wider exchange system, such as technology, knowledge or information exchanges.
- **Technological Exchange**; There is an increasing tendency for firms to engage in some form of technological exchange or interdependence, as a way to achieve and maintain a competitive technological advantage. A prerequisite for an effective technological exchange is a close match between the competence and market position of the respective parties in the exchange. Such an exchange may involve multiple levels of interaction over a long period of time, with the resultant

strengthening of technological relationships between the parties in the exchange. A good example of this type of exchange is the high levels of technological cooperation seen between motor manufacturers in the pursuit of new product development plans and the required scale of economy needed to ensure a new model is a viable proposition. This is achieved without necessarily damaging respective parties' brand equity or market positions.

- **Knowledge Exchange**; Perhaps most relevant to the business and professional services sector, the acquisition and management of knowledge is a significant issue for many firms seeking to maintain a competitive advantage in their respective market sectors. Knowledge is often vested in an individual or team of actors within a network, recognised as a vital resource in the development and execution of business plans. A current example might be the expertise required within a firm to reduce its carbon footprint in order to meet new environmental targets for low emissions, where the need for acknowledged experts to collaborate is sufficient reason to form an exchange network to share knowledge for the mutual benefit of the parties concerned.
- **Legal Exchange**; The interdependence of a firm's relationships with others is often contractual, involving a complex network of legal entities and involve shared equity or shared ownership arrangements. The legal exchange may be a convenient framework for achieving other business objectives, whilst minimising the individual risk for the network parties involved. A legal exchange may also be a method for securing a level of protection in pursuing economic goals in export

markets where barriers to market access may be prevalent, e.g. The Peoples Republic of China which presents legal barriers to many Western organisations.

- **Information Exchange;** Possibly the most frequently found type of exchange network, where firms may seek to share information through an intermediary trade organisation or association. The information may be part of a wider exchange and include technology or knowledge in the exchange network. Unlike the structure required in a legal exchange, the information exchange may be informal and ungoverned but will almost certainly need to be mutually beneficial for it to succeed. However, there is always a danger that such informal exchanges breach competition rules, such as seen recently in case of British Airways and Virgin sharing pricing information on passenger fares, which resulted in financial penalties for both airlines.

If the markets as networks approach is seen as an 'exchange', then the concept of 'interdependence' is at the centre of the theoretical perspective. In order to understand the actions of an actor or to decide on management action, it is important to consider the relationships which exist between the actors concerned (Anderson and Håkansson 1994). Equally the development of new networks is rarely conducted in a vacuum, rather they are created or extended with reference to the prevailing economic, technological or legislative background.

In terms of methodology, the markets as networks approach has tended to favour case based, qualitative methodologies, with some studies combining sociometric analysis with

qualitative methods (Easton and Araujo 1994). Relatively few researchers outside the United States of America have used traditional network analysis, i.e. generating and testing hypotheses using network variables to test conceptual models, to examine network concepts. The exceptions include Medlin (2003a) which examined relationship performance, Möller and Hallien (1999) which examined management performance in networks, Ritter et al. (1999) measuring network competence and Wilkinson et al. (2000) examining firm performance in networks.

The quantitative versus qualitative debate among researchers following in the markets as networks tradition continues. It was arguably the limitations of the formal network analysis approach, where actors, dyads and network structures were studied in great detail, which accelerated the change to less formal qualitative methodologies (Galaskiewicz 1996). Likewise, social relations cannot be explained by a set of quantitative measures, or individual patterns of behaviour (Easton 1992). This prompted those following the industrial networks and markets as networks research schools to seek the freedom of descriptive understanding allowed within the emerging qualitative methodologies. Ford et al (2002) suggest that the principal characteristics of a network were interaction, interdependence and incompleteness. From this, a model emerged of managing in networks, through which the view of the network held by each of the participants was seen in what is termed a 'network picture'. This 'picture' forms the basis for analysis and supporters of the network pictures theory argue that it is an actor's systematic beliefs about network structure, processes and performance and the effects of its own and others strategic actions (Ford et al. 2003).

Researchers favouring a quantitative approach to analysing network outcomes argue that the reliance on case studies to understand networking concepts lacks the precision and certainty of more traditional statistical methods (Iacobucci and Churchill 2002). What is certain is that the goal of researchers working within the network paradigm is to understand the structures and relationships within the network environment, whether at a simple dyadic level or a more complex structure embedded in a larger network framework. However, there is no simple right or wrong methodological approach, only a determination amongst researchers to embrace change and understand the larger context in which networks are embedded (Galaskiewicz 1996).

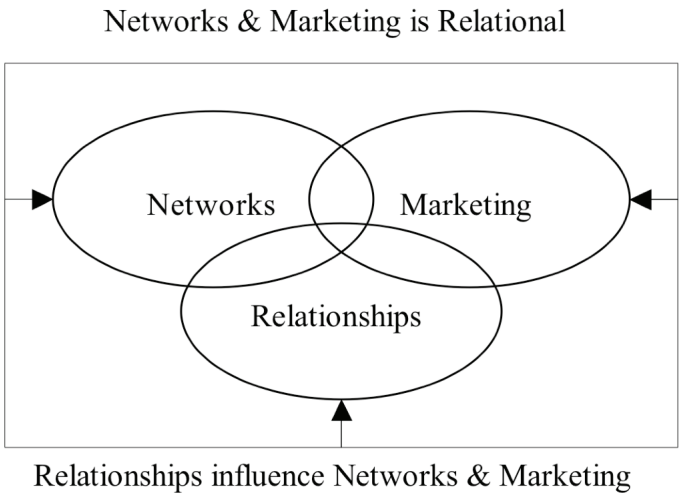
Industrial networks and markets as networks share some of the antecedents and concerns of other network approaches reviewed earlier but present some unique features too. The rapid adoption and success of the markets as networks approach to analysing network connections has extended dyadic studies to a systemic level of analysis through the use of the concept of connectedness and as such has widened the established view of networks traditionally seen though a market hierarchy. However, the markets as networks approach is still evolving, undergoing a process of refinement and development. The following section will look specifically at the emerging research area of relationships in networks and how interaction/network or markets as networks approach may be applied to understand the application of current networking practice within the marketing and business environment.

## 2.6 Relationships in Networks

The last three decades has witnessed a rapid adoption of networks and the benefits of networking across a wide range of disciplines. The ideas developed by the early pioneers of applying social networks theory to the examination of organisations and organisational networks have irrevocably changed the perspective of networks theory and its application across many business environments (Alba 1982; Bagozzi 1975; Cook and Emerson 1984; Granovetter 1973; Sheth 1973; Van de Ven 1976). The network paradigm is clearly established in the business psyche, as is the notion of interconnectedness and interconnection between the network parties (actors). In this section the emergence of the relational phenomena and their influence on the study of networks and the practice of business networking within the context of marketing is explored.

**FIGURE 2.3**

**The Interrelationships among Networks, Marketing and Relationships**



The importance of relationships in networks may have been underestimated in the earlier studies of networks but the interrelationships among the domains of networks, marketing and relationships, as identified in Fig 2.3 above by Iacobucci (1996), describing the relevance of relationships to networks and marketing. This offers a perspective on the importance of networks to marketing where much of marketing is said to be relational; "Networks are an excellent means of studying relational phenomena and therefore networks are an excellent means of studying much of marketing' (Iacobucci 1996, p.112). This recognition linking the importance of relationships in networks to marketing outcomes endorsed the shift in re-appraising the importance of relationships in networks which had begun in Europe with the markets as networks theorists and was soon to reach a global audience through the IMP Group of researchers.

The term 'relationships in networks' is used in this study to emphasise the distinction between the earlier work on developing the markets as networks, or the 'interaction' approach, and the growing recognition that the study of 'relationships' in networks is making to current thinking on business networks and networking. The last decade has seen a significant contribution by researchers to better understanding the importance of relationships in networks and the growing contribution this is making to the literature and to future research (Ellis and Mayer 2001; Ford et al. 2003; Ford and Håkansson 2006; Gadde and Håkansson 2007; Henneberg et al. 2006; Jiang et al. 2009; Leek et al. 2002; Medlin 2005; Ritter et al. 2004; Wilkinson and Young 2002).

Looking at the antecedents of relationships in networks, there is a tendency in early network research, where the focus is on dyads and their connectivity, to treat actors in the network as equals, with little emphasis on relationships. It was some time before the notion of central and marginal actors within a network was recognised and how important these relationships are to the development of the network (Stern and Reve 1980). It was not until the arrival of the network interaction theorists, exemplified by Håkansson (1982) where social relationships were recognised as having important role in business relationships and secondly, that interdependencies and continuity in relationships favour in particular the development of networks. The importance of relationships in networks has been fundamental to the subsequent development of the interaction approach to networks favoured by the IMP Group and typified by Ford (1980) in an appraisal of business relationships in industrial markets.

There are close parallels between the recognition of network relationships and the development of customer relationship portfolio analysis, which offer a similar insight into the growing importance of understanding and managing customer relationships (Turnbull and Cunningham 1981). Relationship portfolio analysis emerged as one way of understanding the complex issues surrounding supplier or customer relationships, which required firms to allocate resources efficiently and effectively to get the best from different types of relationship (Leek et al. 2002).

With discussion on relationships in vogue with marketers, Customer Relationship Marketing was seen by business in the 1980's as a panacea to reverse the reputation of

many commercial firms for poor understanding of customer requirements, poor customer service and a paucity of customer knowledge. Customer relationship marketing was subsumed by the desire to manage customer relationships and marketing became obsessed with managing customer relationships. As a result, a plethora of customer relationship management (CRM) literature ensued. It is not the intention here to introduce the very extensive domain of customer relationship literature. Rather to suggest that considerable attention was being directed towards 'customer relations' by the wider marketing community. It is therefore perhaps not surprising that those interested in networks and networking should also make the connection between networks, relationships and marketing, as described so eloquently in Mattsson (1997).

Therefore, having extended the view of networks in markets theory beyond the dyadic exchange, where networks are seen as being positive, neutral or negative and primarily concerned with network activities, actors and resources, the effect of relationships is introduced to the focal firm (Anderson and Håkansson 1994). Network perceptions are developed over time and by adapting the network activities in several relationships, there will be a complimentary sequence of independent activities and a shared perception of how relationships in the network change (Gummesson 1995). The critical point here is that there is no simple dyadic relationship in a network, the consequences of network relationships may be have stabilising or destabilising effects (Holmlund and Törnroos 1997).

What may be influenced is the constantly changing network of relationships within the network. Ford et al (1998) in their view of managing relationships, suggest that relationships are the primary asset of a business, which require continuous investment to maximise the return on investment. Ford et al. (1998) also believe that managing relationships in business networks in the short term is likely to be based on its current relationships and network position and that in the longer term, managing relationships in the network is likely to be based on influencing its position in the network. This is to suggest that network relationships may be changed over time which Ford et al (2003) say may involve the firm in choices between attempting to coerce others to act in a particular way and conceding to the wishes of others.

Relationships in networks are both complex and multifaceted, as well as being highly dependent on the context in which they are embedded (Holmlund and Törnroos 1997, p.308). Håkansson and Snehota (1995) suggest that business relationships comprise three layers or effect parameters based on the Actors-Resources-Activities (ARA) model discussed in the previous section. Within the context of the ARA model, actor bonds are said to refer to how actors respond in a network relationship perceive and respond to each other Welch and Wilkinson (2002), introducing the idea that shared cognition plays a role in the development of actor bonds within relationships.

Gadde and Håkansson (2007) return to the theme that network relationships are the 'key ingredient in today's economic landscape' but acknowledge that with so many schools of thought, finding a consistent description for network relationships is difficult. However,

they seem to share a common view that there is a strong association between a company's relationships within a network and its perceived economic outcomes.

According to Medlin (2003b) the very nature of dyadic relationships presents a problem for researchers using quantitative methods due to the difficultly of conceiving and measuring a construct that encompasses both parties views of the relationship. This is based on the idea that respective parties are unlikely to report equivalently on items such as trust and commitment, and this cannot be measured without normally aggregating the result to explain the difference (Medlin 2003b). However, from this work, the construct of relationship performance in the network emerged as a viable approach to explaining the relationship from the focal firm perspective. This led to the notion of self and collective interest in network relationships, where the self interest of a firms economic goals are compared to the collective interests of the group (Medlin 2005). Relationship performance in networks has rarely been examined in a quantitative manner, however Medlin (2005) shows the apparent important role that relationships play in the perceived overall success of the network and business outcomes.

Relationships within networks are said to be particularly important to SME's who practice networking and word of mouth (WOM) marketing as a means to access market information by sharing information and keeping themselves informed about new business opportunities (Collinson and Shaw 2001). Word of mouth networks are recognised as important in tracing information about products and services. Referral networks contain key individuals, frequently described as market makers or opinion leaders for which

network analysis is said to be ideally suited to identifying the leading characters identified as sources of information  Iacobucci and Hopkins 1992, p.7).

As relationships are strengthened through participation in the network, knowledge gained and shared extends beyond the common goals of economic value to finding joint solutions to common problems, which can demonstrate how networking between small firms can bring about real benefits (Dennis 2000). The benefits of business networking is seen by Ottesen et al. (2002) as a crucial aspect of SME marketing, where firms create, use and maintain relationships with relevant market actors. Through such relationships SME's also obtain material resources and other inputs needed to compete effectively in the marketplace. However, the advantages of networking for business within the context of marketing are not restricted to SMEs, as Doyle (1995, p.38) suggests; "Networking in the future will be more proactive and offer greater opportunities for managers with marketing skills, as tomorrow's marketing managers will be scanning more broadly and looking at any organisation with capabilities or resources that offer synergies that can be exploited in the market."

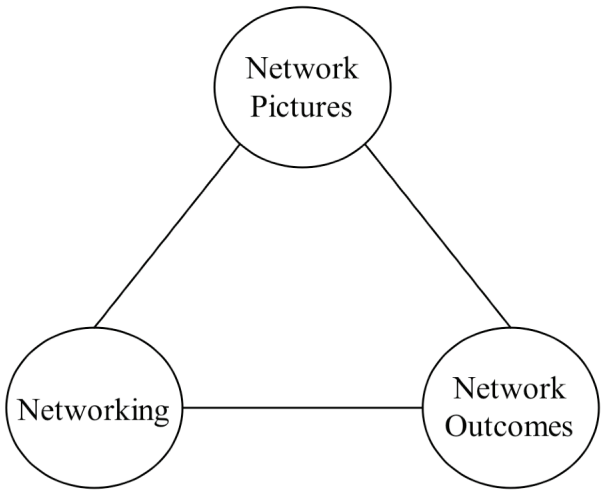
**2.7 Actors' Network Theories**

In understanding the nature and character of business networks, it is also important to consider the actors, activities and actions from the view of the actors within the network. The actors' network perceptions or theories which may comprise not only the present relations between actors and activities but also expectations and intentions regarding future relations Håkansson and Johanson 1993, p. 41). The perceptions of a network and

its networking outcomes will change over time according to the relative position of the focal actor(s) in the network. One of the difficulties in making sense of a network is that any network view from the perspective of a single actor is bound to be biased and therefore incomplete. The view of the network will inevitably be limited by the number of actors (firms) within the network that the single actor knows and has shared experiences with. This is described by Ford et al. (2002 p.4) as actors involved with a particular network each having their own 'picture' of the network, which then becomes the basis for their perception of what is happening around them and of their actions and reactions in the network.

**FIGURE 2.4**

**Network Pictures**




Network Pictures as described in a model of managing in networks Ford et al. (2002 p.5) as being the view of the network help by the participants in the network. Their perception, or network picture, will depend on their own experiences, relationships and

position in the network, which will be affected by their problems, uncertainties and abilities, and by the limits to their knowledge and understanding. The model suggests that network pictures, networking and the subsequent network outcomes are the three elements that affect our view of networks and management in them (Ford et al. 2002).

Whilst considerable research has been based on the nature and role of interactions and relations in networks and business markets, with focus on analysis based on the ARA model Håkansson and Snehota (1995), Welch and Wilkinson (2002, p28) suggest that the ARA model might be extended to incorporate a forth dimension of ideas or schemas. Central to this idea is the notion that actor bonds affect the ways that individual and collective (organisational) actors in a relationship perceive and respond to each other, both professionally and socially (Welch and Wilkinson 2002). The conclusion is that cognition as to how idea logics are formed gives an additional insight into the structure and dynamics of a network, manifested in the patterns of actor bonds, activity links and the resource ties characterising a network.

In a separate study, Ottesen et al. (2002) caution that managers' perceptions of their behaviour within a network was at variance with the view of other members of the network. The findings suggest that the managers questioned made substantial perceptual errors and both under and over-estimated the intensity of their information exchanges in the network. However, the accuracy of the network perceptions was found to increase as the frequency of the information exchanges increased, suggesting that by increasing the frequency of their network exchanges and critically examining the accuracy of

information from their network sources, greater accuracy may be obtained, enhancing the accuracy of their network perceptions (Ottesen et al. 2002). This view regarding the frequency of network ties activation, being not just the number of network ties but the frequency of their activation is supported in the findings of Üstüner and Iacobucci (2012, p.194). This argument for frequency of contact or activation is also supported by Hollenbeck et al. (2009, p.134) with successful networks being characterised by consistent interaction among members and regular sharing of information. Measures of networking success from a business perspective have to be based on more than counts of interaction and are dependent on actor bonds. Actor bonds are said to both create and are dependent on shared meanings perceptions and norms (Welch and Wilkinson 2002, p.29).

Network perceptions and actors' network theories change over time. The connection between actor bonds and activities are considered complimentary, with constraints on activities reducing over time, as actors' network theories gain importance (Johanson and Mattsson 1991). Relationships with others actors in the network also gain greater importance in the longer term perspective, as they interrelate to the different perceptions of other actors in the network (Håkansson and Johanson 1993).

### 2.8 Benefits of Networking

The growth of networks and networking in the past three decades across all business sectors has been unprecedented. Firms in almost every sector are thought to have some experience of networking at either an individual or inter-firm level (Leek et al. 2002; Misner and Morgan 2000). Likewise, firms in many industries have entered into a variety

of co-operative inter-firm relationships to conduct business. These networks include strategic alliances, partnerships, coalitions, joint ventures, franchises and various forms of network organisations, both formal and informal. This involves collaboration in areas such as; research and development, production, marketing, training, exporting, financing and knowledge transfer (Araujo 2004; Snehota 2003).

Networks have emerged as the new response to competition, a way for firms to develop joint solutions to common problems (McLoughlin and Horan 2000). A key issue for small firms in particular is to ensure that board members have the relevant knowledge and access to critical resources (Machold et al. 2011). The importance and significance of networks in business is increasing as the nature of competition is changing. New competitive conditions are demanding new strategies. The growth of networks allows firms to combine resources to gain knowledge, achieve economies of scale, acquire technologies and resources and enter markets that would otherwise be beyond their reach. Networks act as a source of competitive advantage, especially for small firms which helps them overcome the disadvantages of their size (Leek et al. 2002).

The benefits of networking are well documented by a number of authors including Birley (1985), Burg (1999), Chell (2000), Dennis (2000), Ford et a. (2002) and Gilmore et al. (2001), summarised as follows:

- Economic benefits: Firms can increase sales and lower production costs by working together in collaborative networks.

- Psychological benefits: As firms eliminate their isolation, especially SMEs they learn that their problems are shared by others and can be resolved in the network.
- Shared knowledge: Firms can exchange knowledge that might otherwise be costly to acquire by collaborating on joint projects where shared expertise is available.
- Developmental benefits: By promoting interaction with other firms, networking increases learning and the ability to adapt to the changing economic environment.

### 2.8.1 Benefits for SMEs

Networks and networking are of particular benefit to small and medium sized enterprises (SMEs), where networks involving organised systems of relationships between small entrepreneurial firms involving advisers, suppliers and customers are particularly valuable to the small business sector (Chell 2000). The problems associated with small size can be offset by the supportive environment provided by resilient networks (Collinson and Shaw 2001). By engaging in alliances and other co-operative network arrangements, small firms can gain individual strength and a measure of both individual and collective independence. The reasons why SMEs co-operate can be due to the following: the advantage of achieving economies of scale; the sharing of information about the latest techniques and technologies might be an interesting mechanism for keeping small firms up to date and competitive, with rationalised and efficient distribution of activities benefiting from economies of scale (Collinson and Shaw 2001).

SMEs can be competitive if they can collectively 'realise' the advantages of economies of

'specialisation' that they do not possess individually because of their small size. Yet SMEs can also encounter barriers such as shortage of funds, lack of appropriate skills and incapacity to capture market needs (Wang and Costello 2009). Chell (2000) identified two parallel but contrasting phenomena: firstly, larger firms reorganised their own activities around networks of interconnected activities; and second, successful small firms aggregated networks, creating local networking clusters. Networks and inter-firm relationships present SMEs with a number of options to overcome a range of increasing disadvantages they are experiencing in trying to compete in the ever increasing globalisation in the marketplace (Gilmore et al. 2001; Wang et al. 2004). SMEs are being driven towards increasingly flexible specialisation, honing their efforts on a narrowing field of production and concentrating their actions on their core skills, to remain competitive. The intermediate market delivering goods and services from one industry to another has become a market of the same importance as the final consumer market. The measure of 'value added' in the supply chain, from raw material extraction to final consumption, has been split between larger numbers of enterprises (Ottesen et al. 2004).

### 2.8.2 Benefits for Marketing

Despite the evidence in the management and entrepreneurial literature, the marketing discipline has been accused of being slow to recognise the advantages of business networks and the benefits of networking, with Doyle (1995, p.38) saying "Marketing has tried to be too functionally autonomous, resulting in low value added line extensions and promotions substituting for real innovation – essentially the failure of marketing was a

failure in networking". Achrol and Kotler (1999, p146) see marketing as being integral to the network economy, where marketing will adopt a variety of network forms and the role of marketing within the network environment is changing in profound ways. Marketing is relational and the nature of business to business connections are seen as a critical enterprise for marketers – offering opportunities to explore how transactions develop towards long-term relationships, to intricate networks of connections (Iacabucci 1996). McLoughlin and Horan (2000, p.285) also see the benefits from the markets as networks approach for business marketing, describing the ideas as being attractive and engaging, with practitioners saying 'this is exactly how it happens in my business".

### 2.8.3. Benefits for Sales

The importance of relationships and interaction in the changing role of sales and marketing has been recognised for some time (Webster 1992). However, most research has continued to follow the separate conventions of sales account management, relationship marketing and networks (Håkansson and Snehota 1995; McDonald, Millman et al. 1997; Pardo 1997). Homburg, Workman JNR et al. (2002, p.39) support the notion of building a bridge between sales, in particular key account management (KAM), marketing and relationships in networks. Just as there are advantages in participating in networks for managers, SMEs and marketers, there are benefits for salespeople (McDonald et al. 1997).

Salespeople are encouraged to develop personal contact networks of prospects, customers and intermediaries, which may be product specifiers or suppliers and are essential in

developing relationships. However, salespeople often view sales networks only in terms of numbers of direct contacts and do not necessarily appreciate the importance of other influencers in the network. This is summarised by Üstüner and Gordes (2006, p.104) as someone who knows a lot of people don't necessarily have an effective network, because networks often pay-off most handsomely through indirect contacts. However, Steward et al. (2010, p.563) found that formal networking systems were only used by salespeople after they had exhausted information or referrals from their own personal networks. Sales managers act as network engineers acting as a conduit for information flows between the customer and the supplier firm (Flaherty et al. 2012).

**2.9 Limitations of Networks**

It is no exaggeration to say that most of the literature on networks tends to emphasise only the positive effects of networks and networking. However, networks can be described as a 'double edged sword' that can facilitate as well as inhibit the development of firms (Ritter et al. 2004). One constraint that has received attention is the tendency for SMEs to under-invest in relationship development. Carson et al. (1995) found that small firms shunned voluntary relationships and made little use of networking even to overcome problems that threatened the survival of the firm. It is suggested that this is because of the independent attitude of entrepreneurs, coupled with the time constraints created by having to deal with day-to-day management problems which take priority over developing relationships and building networks (Carson et al. 1995). In addition, entrepreneurs are sometimes fearful of outside interference, loss of control and the potential for local competitors to gain inside knowledge.

Ottesen et al. (2004) compared firms in two relatively large networks with a control sample of marketing firms, and found that marketing firms made minimal use of inter-firm relationships. Managers explained the minimal use of relationships in terms of limited time, no perceived need, and fear of losing proprietary information. However, this is the exception rather than the rule, as there are many more examples of where firms in networks have greatly benefited from being engaged in networking activities (Broad 2009; Buchel and Raub 2002; Chell 2000; Cross and Prusak 2002; Dennis 2000; Kothandaraman and Wilson 2001; Tongue 2004).

There are also examples of where, for various reasons, firms have become disillusioned with networking and have withdraw from the networks they belonged to, in what Chell (2000, p.18) calls "network rejecters". Equally, there are other examples where an SME has benefited from membership of a network in the early stages of growth, only to leave when business had reached sustainable levels of business (Dennis 2000; Swan et al. 1999).

In summary, there are undoubtedly many more advocates of networking than there are detractors. The evidence from the literature focuses on the benefits of network membership and the potential outcomes, with only a few disadvantages recorded. In practice, it may well be that networking is not seen as a panacea for increased efficiency or enhanced business performance by many categories and types of firm but this has not so far been recorded. With this in mind, it is important to recognise the potential

limitations and possible disadvantages of network membership and to better understand the limitations of networks as well as the advantages.

### 2.10 Unit of analysis in the Network Approach

Having reviewed the theoretical background and the fundamentals of the network perspective, it is important to consider the appropriate unit of analysis within the network approach. There is no simple answer to this, as the choice of unit depends on the research angle taken. Easton (1992) suggests four alternative approaches to research industrial networks, where (1) the emphasis is on the structures of networks, (2) on networks as processes, (3) on relationships between actors, (4) on the position of a focal firm within a network. Common to them all is the use of three interrelated basic variables, namely; actors, activities and resources. The network as a structure approach is based on the conclusion that a network structure must exist as a corollary of the interdependence of firms (Easton 1992; Mattsson 1985). Firms are the key elements in these structures and develop different traits depending on the structure and purpose of the network. The concepts of interdependence, structure and heterogeneity are all found to be positively valanced (Easton and Araujo 1994). The relative strength of the linkages between the actors can be determined as dense parts of the network, corresponding to clusters of firms with relatively strong relationships (Easton and Araujo 1994).

Networks as processes is a popular approach used by researchers working within the networks as markets approach typified by Easton (1992) and Håkansson (1987). The

main feature in the 'network as process' school is the important role that 'change' plays in networks. The idea is that networks are not static but rather they are continuously being modified due to transactions within the network and external events acting on the network organization itself. While a network is changing, it is at the same time stable because of the relationships established in the past (Gadde and Mattsson 1987). Resources committed to building relationships and the subsequent network bonds strengthen the links between firms, resulting in robust network linkages that are extremely durable and therefore sustainable over time.

The third approach within the network perspective approach is the idea of 'networks as relationships' (Easton 1992), which share many ideas and concepts with the interaction approach described earlier in this chapter. In contrast with the interaction approach, research in this context deals with multiple actors in overlapping dyadic relationships at one time (Medlin 2003a). Relationships as distinct from individual transactions or interaction episodes, are considered to be long term and although more general in nature are often longer lasting and deliver better results.

Finally, the concept of 'network as position' focuses attention on the individual actor rather than the network itself (Easton 1992). The position concept provides 'both means and ends of strategic actions' (Johanson and Mattsson 1992). The 'network as position' goes beyond the interaction approach because being concerned with the management of relationships, it takes other relationships into account and because the focal relationship

is seen as a 'conduit to other relationships through which resources may be accessed' (Easton 1992). As discussed in the previous section, the actors' network perceptions or theories may comprise not only the present relations between actors and activities but also expectations and intentions regarding future relations within the network (Håkansson and Johanson 1993). The patterns and character of the connections between the relations are said to constitute the nature of the network, which are formed and modified through the interaction of the actors. All actors have a clear view or perception of their relations with other actors, although the views of interacting actors are not necessarily consistent and individual actors may have divergent views of the network. Håkansson and Johanson (1993, p.43) found that the less immediate a relation in a network, the less differentiated and clear an actor's cognitive model is.

Irrespective of the network approach, Gadde and Mattsson (1987) highlight the importance of defining relationship boundaries in the network structure. The concept of the 'organisational field' is proposed and it is a matter of interdependencies rather than competition between firms in a space delimited by initiatives taken by organisation and by the relationships between themselves and their interdependencies. This is also described as the perception of their unique role in the network environment, and labeled as the 'objective character' in the organisational field (Easton 1992). Easton also states that in analysing relationships, it is important to be aware of the resources held by the firm and the outputs that are generated. In analysing network position, it assumes a subjective character when it is considering actors' behaviour in trying to reciprocally

evaluate each others' potential actions (Easton 1992).

By identifying the most important or influential actors in a network, i.e. those with whom an organisation feels strongly interdependent, the focal firm takes on the persona of the actor concerned (Weick 1995). This 'enactment phenomenon' is said to lead to the institutionalisation and stabilisation of the organisational field, or a boundary within the network. The idea in network position is that value arises from the management of interdependencies between actors, organisations and their respective relationships in the network, mutually adjusting to each others' behaviour, as well as to exogenous changes (Snehota 2003). This approach suggests that the relevance of strategic analysis depends on the understanding of interdependencies between network entities.

The reluctance of scholars in marketing to address the theoretical and measurement issues associated with testing hypotheses using network frameworks was noted by Stern (1996), who complained that much of the ensuing marketing based research into networks was devoid of theory or a strong theoretical foundation. An exception to this generalisation is the work by Cook and Emmerson (1984) who argue that the dyad remains the fundamental unit of analysis and is critical to the understanding of networks. This prompted the question as to how elements of the network in which the dyad is embedded affect the sentiments, behaviour and performance of the members of the dyad? Stern (1996) suggests that to uncover the knowledge about these phenomena, it is important to analyse the dyads relationship with its environment in terms of competition and network

behaviour. The linkages between developing network relationships and behaviour in the network is important in understanding the nature of the dyadic relationships, where behaviour, whether explicit or implied, can have a direct bearing on the network goals or outcomes. Network goals can only be secured if the parties coalesce (Stern 1996).

### 2.11 Networking Performance

The term networking performance was identified in the development of this thesis as a possible operationalised outcome of being part of a business network, engaging in networking activities and therefore a measure worthy of further investigation.

The arguments presented in this literature review for being a member of a business network are compelling and common to the network theories discussed is the premise that the individual firm will benefit from belonging to a network. However, despite the evidence in the literature of the benefits of business networking and the suggestion of this contributing to firm performance, there has been little empirical evidence so far of an association between a firm's use of networks and firm performance (Watson 2007).

In a study of firm growth among SMEs in networks, Hays and Senneseth (2001, p.294) found that very few network studies focus on the long term economic benefits for the individual firm in belonging to a network, suggesting that one reason for this is the focus on the network rather than the individual firms which constitute the network. Terziovski (2003) also found a lack of rigorous research reported in the literature that tests the relationship between networking practices and business excellence. Similarly,

Hollenbeck et al. (2009, p.134) suggest that measures of networking success from a business perspective have to be based on more than counts of interaction, noting that successful networks are characterised by consistent interaction among members and regular sharing of information.

The existing research has reported various outcomes from networking, e.g. knowledge sharing, competitor intelligence, resource sharing, product innovation and market extension (Chell 2000; Dennis 2000; Gilmore et al. 2001; O'Donnell and Cummins 1999; Swann et al. 1999). Ford et al (2002) considered network outcomes on three levels, the single actor or firm, those in a single relationship with its own identity and the outcome for the network as a whole. No firm is said to operate on the basis of complete analysis of all the networking in which it is involved – each company will observe, assess and respond to only a subset of the networking outcomes that is based on its particular network picture (Ford et al. 2002, p.13). The networking outcomes considered from a marketing perspective in relation to the ARA model are described by Ford et al. (2003, p.205) as; (1) actor outcomes; creating long term relationships with suppliers and customers, (2) resource outcomes; the impact on resources of those in the network relationship, (3) activity outcomes; the integration of activities of the partners in the network relationship.

Few studies have investigated the outcomes of networking from a perspective of firm performance, an exception being Ottesen et al. (2004) who investigated SMEs networking activities in respect to the firm's relative economic performance within its

industry. A further example of a study where performance measures in a network have been measured is Medlin (2003, p.5), where relationship performance is defined as "the perceived economic performance of the relationship parties, relative to expectations in that network" in what is described as a framework of activities and resources at the actor/firm level and provides a useful background to identifying the dependent variable in this study. The notion of networking performance being the outcome of networking activity being a firm specific characteristic is recognised as being important to understanding the outcomes of networking activity and the likely operational benefits for the network actors involved.

Network concepts and outcomes are seen to exist within a network environment and together influence the nature of the network exchange from a network perspective, influencing network activity and therefore may also have an impact on networking performance. The markets as networks approach to understanding the variety of resources that can be exchanged has been summarised in Iacobucci (1996) as a set of relationships based upon a number of exchanges, of which the financial and economic exchange is perhaps the most obvious in a business context to measure the economic value of the network relationship. The financial benefits of a network relationship are a major factor in describing networking success, with a high degree of coordination and maintenance required to achieve network goals (Dennis 2000). The positive outcomes of networking activity identified by McLoughlin and Horan (2000) also suggest that the financial aspects of a networking relationship are a major factor contributing to networking success. However, the short term nature of economic considerations alone may not be a

long term indicator of performance in networks and wider measures involving network competence have been sought (Ritter 2002). Network competence an indicator of performance in networks is defined as the degree of network management and the management qualifications possessed by the people handling the network relationships (Ritter and Germünden 1999).

The advantage of an economic focus in the study of network effectiveness is that it offers direct performance indicators relative to commercial expectations. Ritter (2002) identified the importance of relationships in networks. This suggests there may be connection between the strength of relationship in a network influencing the activity and the economic outcomes attributable to the focal firm. There is growing recognition that firms are seeking to derive a sustained competitive advantage from a bundle of intangible assets, including knowledge, innovative capability and networks (Seggie et al. 2007). Therefore measuring the return on investment on such intangible assets has become an imperative for managers (Clancy and Stone 2005).

The desire to link investment in the intangible aspects of marketing to quantifiable outcomes has had strong support from managers, particularly in the USA, where the Marketing Science Institute (MSI) made assessing marketing productivity its top priority in 2004-2006. This is significant because according to Clancy & Stone (2005) the MSI serves as a link between the academic and practitioner communities in the USA. This focus on the measurement of seemingly intangible marketing activities was deemed important enough to warrant a special edition of the Journal of Marketing (2004). Conventional accounting measures of marketing productivity such as market share, sales

turnover or profitability tend to be historical and are not reliable indicators of future performance.

To improve the usefulness of marketing based measures of intangible items like networking performance, then it is crucial to view these activities as an investment and not a operating cost on the business (Seggie et al. 2007). Segge et al. estimate that intangible assets of a firm are worth up to an average 70% of a firms market value, compared to just 17% twenty years earlier. Academics and practitioners appear to agree that quantifiable measures (or metrics) are important in the quest to assert the true value of intangible assets at boardroom level and that the 'measures' should be relative to the market and the competition. Another important factor in the selection of financial and non-financial performance measures is 'consistency' in the measurement and assessment the relative value of these measures when considering items like relationship performance (Medlin 2003b). The dyadic nature of network relationships where actor perceptions differ, is also said to present a problem for researchers seeking a quantifiable approach relying on simple aggregation to analyse actor constructs. Medlin (2003b) offers an insight into network performance based upon firms' perceptions within a single and multi level framework.

In recent years there has been a drive towards identifying and providing suitable quantifiable measures that can be employed in evaluating the 'value added' component of the intangible assets of a firm. Chief among these approaches has been the use of Economic Value Added (EVA), a perspective which goes beyond the simple accounting measures and considers costs associated with intangible aspects of a firms activities like

marketing as an investment, to be evaluated in line with the return on that investment. Early examples of this approach include the Balanced Score Card combining accounting measures with some of the less tangible or 'softer' measures of firm performance (Seggie et al. 2007). Other approaches include Market Value Added (MVA) based on share value, Customer Lifetime Value (CLV) and accountancy measures of Return on Investment (ROI) involving discounted cash flows to predict future economic values.

Measures of marketing activity involving ROI can be controversial in the con text of marketing or networking effectiveness because the benefits of such activity often emerge over the longer term (Rust et al. 2004). ROI, being a short term measure or 'snapshot' of activity, can be prejudicial against marketing expenditure where the benefits are known to be accrued over the longer term. The correct use of ROI to measure marketing activity involves the analysis of future cash flows but Rust et al. (2004) also warn against over reliance on ROI as a measure of marketing effectiveness because it is inconsistent with the maximization of profit. This is an important consideration and one that is often quoted in the management literature (Shrivastava et al. 2001).

Other factors which may affect marketing and network performance measures are the environment and the competition. The networking environment can have a major impact on networking performance, with economic, political and legislative factors often being outside the control of the firms within the network. The final factor which may affect networking performance is the nature of the competitive environment in which the

networked firms are competing. The decision for the focal firms seeking a competitive advantage are based on whether to 'drive' the market and seek increased sales and market share, or to be 'driven' by the market, which is a more passive approach but where participants in the network can achieve economies of scale and be equally successful in terms of network performance (Rust et al. 2004).

In summary, according to Cook and Emerson (1984) performance in networks can be studied from a number of perspectives. Firstly, performance can be examined from the perspective of the focal firm in the network, in terms of its own networking competence, which is influenced by the effectiveness of its management task and execution. In addition, the focal firm's performance in the network is heavily influenced by its networking behavioural traits. This is closely aligned to the second significant perspective based on the strength of the relationships in the network. Relationships between the dyadic partners in the network are a key factor in determining the performance of the network as a whole and the individual networking benefits derived by the network actors. The third perspective is based on the perceived position of the firm in the network and the degree to which the firm is deemed to be 'embedded' in the network. The degree of embeddedness is influenced by the strength of the network ties and the perceived reciprocal benefits. The final perspective is arguably the most difficult to define but is concerned and influenced by the 'environment' in which the network is operating. The positive and negative aspects of the networking environment are closely aligned and can influence the perceived attractiveness of the network (Cook and Emerson 1984).

## 2.12 Concluding summary

In this chapter the antecedents of business networks and networking were traced through the literature from a marketing perspective. The literature on network theory and its relevance to marketing has been examined in detail, in particular the study of networks in markets and the impact that relationships can have both on networking and marketing.

The chapter has followed the development of network theory and through this identified the factors which has been most influential in understanding networks, networking and relationships in business networks, namely:-

- The antecedents of networks in markets in social network theory
- The influence of interorganisational studies on understanding networks
- The dyadic nature of actor connections on network relationships
- The relational nature of networks and its application in marketing

As the study of industrial and business networks has evolved, the literature has diversified, becoming global in its perspective and recognised as being influential in the development of business networks. These developments are seen as being significant for firms seeking a competitive advantage by collaborating in networks to improve marketing outcomes.

Without doubt the most prolific and influential group of researchers following the markets as networks or 'interaction' approach is the IMP Group. The resultant body of literature, conference papers and more recently its own journal, has done much to

promote the study of networks. There have also been numerous collections and syntheses of IMP papers produced extolling the work of the group (Araujo 2004; Axelsson and Easton 1992; Dennis 2000; Easton 1992; Ford and Håkansson 2006; Gadde and Hakansson 2007; Henneberg et al. 2006; Mattsson 1985; Mattsson 1997; McLoughlin and Horan 2000; Möller and Hallien 1999).

However, the work of the IMP Group is not without its critics with Parkhe et al. (2006, p.561) suggesting that "a drawback of the network approach is its lack of coherence and underachievement". Knocke (2001) notes that the present diverse network approaches represent loosely connected sets of concepts, principles and analysis methods, rather than a rigorously deductive system. Others have argued that even with the volume of literature produced under the IMP banner, with Salancik (1995) in the early stages of the development of the network approach saying that much of the markets as networks approach is yet to be realised and whilst noting the use of the interaction model for analysing data, called for 'a new network theory' to fill the structural gaps in understanding business networks.

With the critics of the markets as networks approach mainly emanating from the USA, it is interesting to consider the summary of the IMP research produced by one of its founders Snehota (2003), with its controversial title 'Markets as Network – So What?' This is an open and succinct reflection on the research undertaken within the IMP, commencing with the emergence of the original phenomena when the then dominant theories of networks were being challenged and the notion of continuous exchange

relationships and their interdependences were first established. The issue as Ivan Snehota (2003) sees it, is that too much time has been spent 'postulating' that markets in networks are institutions rather than a distinct mechanism in the assumptions of economic theory and therefore more relevant to the marketing discipline.

However, in considering the development of this thesis, the significant contribution by the IMP and the markets as networks domain has formed an important theoretical foundation to understanding business networks. I posit that it is important to understand the nature of business networks to properly investigate the benefits of business networking and its outcomes. A business network comprises a number of connected business relationships, hence the actor bonds, activity links and resource ties that evolve from a single dyadic relationship are connected to a wider web of actors in the business network through the practice of networking. Networking, network pictures (actor perceptions) and network outcomes are all interconnected – none of them automatically precedes the others and each affects and is affected by those others (Ford et al. 2002). Networking for business is recognised as being associated with but distinct from networks, which is applied to a wide spectrum of contemporary organisations, including business networks. Networking comprises social processes over and above the transactional exchanges found within the structure of a network but understanding the relationship between networks and networking is key to the development of this thesis. Practitioners are able make a clear connection between business networks and networking and this study is concerned with the practitioners (actors') perception of networking within the context of the business network.

# Chapter 3

# Conceptual Framework

**Chapter Content**



## 3.0 Introduction

The previous chapter reviewed the extensive body of literature on network theory with specific focus on business networks and the outcomes of networking activities in developing a measure of networking performance. Networking activities are described as the strategic intentions and resultant behaviour, which can in turn lead to positive business outcomes (Ford et al 2002; Håkansson and Snehota1989).

In this chapter the earlier review of network theory and the emergence of the markets networks literature, is synthesised with a view to developing and explaining the conceptual framework at the centre of this study on networking performance. The purpose of this chapter is to develop a conceptual framework to drawing on the different theoretical approaches used to examine the theoretical concepts associated with the

network and networking constructs identified in the literature. The objective is to develop a framework designed to identify the preferred approach to conducting this research and assist in visualising the inter-relationships between the concepts and identifying the possible determinates of NP.

Research undertaken within the markets as networks field recognises the interdependencies, interactions and relationships as important generic aspects of firms' behaviour and network orientation (Ford et al. 1998; Håkansson 1982). Therefore, as discussed in the previous chapter, the paradigm of networks and networking with a marketing orientation, linking relationships and networks within a networking environment is well established. Granovetter (1973) recognised that firms' networking capability is strongly influenced by social bonds, the strength of the connection, the frequency of communication and how long they had co-operated. This research was the precursor to a subsequent model developed by Johansson and Mattson (1992) where social exchange theory was used to explain how firms develop networks organically, to eventually become high performing structured networks.

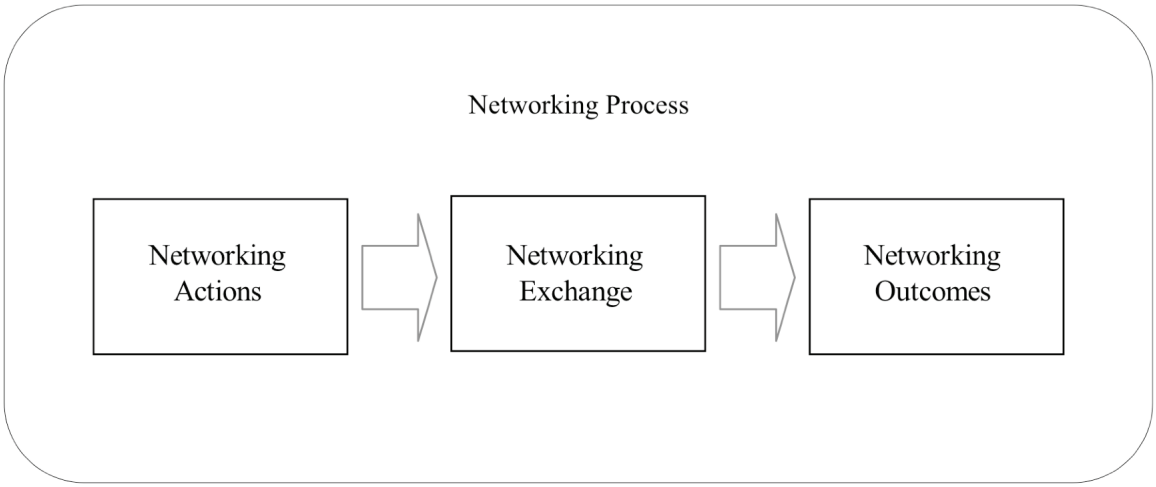
Performance in networks has been studied using managerial assessments of performance, in terms of the managers' satisfaction with the network and the extent to which the network has met its stated objectives (Anderson and Håkansson 1994). From this earlier research into aspects of networking in a business network, a model showing the initial development of a conceptual framework to explain the indicators of networking performance is presented later in this chapter. This draws on the previous research strands

from the firm's focal perspective, building on collective knowledge surrounding the network environment and network atmosphere constructs. However, the research also explores the influence of emerging constructs on networking outcomes, e.g. network characteristics and network capability.

Other factors such as organisation size, the linkages between network competence, network relationships and network embeddedness are known to influence network outcomes (Ritter 2000). These are examined, along with network influence and network trust (Anderson and Håkansson 1994). Together, these constructs identified in the literature were considered to be important aspects of a firm's perspective on business networking activities and how these constructs related to the perceived networking outcomes and ultimately networking performance.

**FIGURE 3.1**

**Development of a Conceptual Framework**



The model in Figure 3.1 from Håkansson and Snehota (1989) was used as a guide to investigating the theoretical linkages between a range of networking actions processed through a networking exchange, resulting in networking outcomes. This may be a simplistic representation of the networking process but it is useful to understand that it is not by networking actions alone that networking outcomes can be assessed. In the development of a conceptual framework, it is important to understand the process and interaction within the network which contribute to the networking outcomes and in this study, with particular emphasis on identifying dimensions of networking performance.

The notion of a networking exchange has evolved from social exchange and subsequent network exchange theory, where social and network exchange is said to be shaped by the network structure in which the relationship is embedded (Cook and Emerson 1987; Willer 1999). Network actors are said to be embedded within the network structure, which governs the network behaviour and evolves as the network develops, influencing a range of network outcomes (Ford et al. 2003; Ford et al. 1998; Håkansson and Snehota 1989). As with the social exchange, if the structure of the network is changed, the network exchange will influence network behaviour and affect the network outcomes. Although the model in Figure 3.1 goes some way to explain the process of network development, it fails to recognise the importance of relationships within the interconnected actors in the network, which was later addressed by (Ford et al. 2003). The merits of the notion and interpretations of a network as an exchange vary with network relationships being based on simple dyadic structures (McLoughlin and Horan 2000). Meanwhile others believe the networking process being interactive and mutually

beneficial, is facilitated by the idea of a network exchange (Achrol 1997; Kotler and Armstrong 1999). For the purpose of this study, the notion of networking outcomes being classified in terms of exchange outputs will assist the in the process of identifying networking performance.

### 3.1 Theoretical Concepts

This research was viewed from the individual firm's perspective, as described by individual actors as employees of the firm operating within the network. The focus of the study is business to business (b2b) networking but as Granovetter (1985) argues, network analysis begins with the assumption that actors within a network, whether they are acting as individuals or as part of a group, are embedded as part of a myriad of social relationships. As such, it is impossible to understand actor behaviour within a network without understanding the relationship context in which it functions (Galaskiewicz 1996).

We also know from earlier network analysis conducted by the social and behavioural science literature, exemplified by the 'Hawthorn Studies' conducted by Roethliberger and Dickson (1939), that actors are interdependent rather than independent and that the relationships that actors have with each other are channels or conduits through which ideas and resources flow. It is also stated that network analysis should be concerned with relationships as well as behaviour, leading to what was subsequently described as the network approach to understanding relationships in networks (Galaskiewicz 1985; Wasserman and Galaskiewicz 1994).

The markets as networks approach to researching business networks shares some of the antecedents and concerns of other network approaches reviewed in the previous chapter but presents some unique features too. The relationship and interaction approach associated with markets in networks has extended dyadic studies to become an established systematic level of analysis through the concept of connectedness in network relationship studies, as acknowledged by Iacabucci (1996). This approach is exemplified by the innovative studies conducted by Håkansson and Snehota (1989), in collaboration with with other leading adacemics within the IMP Group research community.

As part of the process to review the literature domain associated with understanding the research into markets as networks, a table was developed to summarise the concepts and connections of the network terms found in the literature. The networking terms listed in the Table 3.1 in alphabetical order, are considered to be influentual in the development of the constructs used to describe the variables in the emerging conceptual framework, to explain networking outcomes and the measurement of networking performance.

**TABLE 3.1**

**Network concepts associated with networking performance**

| **Network Terms** | **Author(s)** | **Theoretical description** | **Link to conceptual model** |
|---|---|---|---|
| Network Activation | Üstüner and Iacabucci (2012) Steward et a. (2010) | The frequency of activation of network ties is considered important in determining networking outcomes. The activation of network ties may be formal or informal, via digital | Network Environment |

| Network Terms | Author(s) | Theoretical description | Link to conceptual model |
|---|---|---|---|
| | | of face to face communications in network meetings or on a one to one basis. | |
| Network Allegiance | Andersen and Buvik (2002) Dorsch et al. (1998) Madhock (1995) Harvey & Lusch (1995) | Allegiance exists where two or more potential exchange partners share the perception of goal compatibility, trust and performance. This is strengthened over time when strong bonds form through shared experiences. | Network Characteristics |
| Network Atmosphere | Granovetter (1985) Birley (1985) Galaskiewicz (1985) Gadde and Mattsson (1987) Holmlund and Törnroos (1997) Ford (1998) | Networks described as having a discernable atmosphere, said to be a precursor to understanding the identity of the network. Network profile is linked to the network atmosphere. The term atmosphere is also recognised as being problematic due the conflicting use of the terms environment and atmosphere. | Network Attractiveness Network Profile and Network Identity |
| Network Attractiveness | (Granovetter 1973) (Miles and Snow 1986) (Gadde and Mattsson 1987) (Håkansson and Snehota 1989) | Network attractiveness like social attractiveness. It is considered a prelude to social interaction and important in dyadic business relationships. A firm's network perspective is conditioned by perceived network attractiveness. | Network Atmosphere and Network Environment |
| Networking Behaviour | Thorelli (1986) Anderson and Håkansson (1994) Achrol & Kotler (1999) | Networking behaviour is defined as the interactive network process wherby actors seek to develop close relationships based on mutually beneficial acts. Network behaviour is seen to be a reliable indicator of networking performance. | Network Environment and Networking Performance |
| Networking Capability | Ritter (2003) Teece et al (1997) Helfat & Peteraf (2003) Eisendhardt & Martin (2000) | Networking capability is defined as a firm's ability to develop and use inter-firm relationships measured by task execution and qualifications.It is also seen as the process of developing inter- | Networking Outcomes Network resources and Degree of embeddedness. |

| Network Terms | Author(s) | Theoretical description | Link to conceptual model |
|---|---|---|---|
| | Anand & Khanna (2000) | organisational relationships to access resources for networking. Networking capability is dependent on network orientation and degree of embeddedness. | |
| Network Characteristics | Ritter (2000) Kale et al (2000) Easton & Araujo (1994) Moran (2005) Ritter (1992) | The description of network characteristics varies according to the firm's focal perspective. Ritter found a strong correlation between positive network characteristics and network competence. Network outcomes are dependent on firms demonstrating a portfolio of network characteristics | Networking Outcomes Network Competence, Strength of Relationship |
| Network Competence | Drucker (1992) Prahalad & Hamel (1990) Freis et al (2003) Ritter (1992) | Network competence is defined as the skills, knowledge and resources to perform network tasks. It is seen as a core competence of a firm using networking as a root to competitive advantage. | Network Capability |
| Network Contacts | Granovetter (1973) Ford et al. (2003) | Network analysis was based on studying the dyadic connections between actor nodes and the subsequent ties in a network. From this the study of the interconnections and relations in networks emerged. | Network Environment |
| Degree of Embeddedness | Holmland & Törnroos (1997) Håkansson (1997)Greve & Salaff (2003) Ritter et al (2004) Young & Wilkinson (2004) | Defined as the degree to which actors are embedded in a network and likely influence networking outcomes. The degree of embeddedness in a network is an established network concept and is likely to influence the action and outcomes from relationships in the network. | Network Capability, Networking Outcomes & Networking Performance |
| Network Environment | Granovetter (1985) Ford (1998) | The network environment is described as enabler of network performance and the idea of the | Networking Performance Network |

| Network Terms | Author(s) | Theoretical description | Link to conceptual model |
|---|---|---|---|
| | Thorelli (1986) | equal power network, where where members develop close relationships based on reciprocal and supportive actions based on their behaviour. Therefore networks are said to have a discerable environment. | Behaviour Network Intensity |
| Network Identity | Achrol (1997) Achrol& Kotler (1997) Håkansson (1982) Håkansson and Snehota (1989) Hald et al. (2009) Huemer et al. (2004) | Network identity defines how firms see themselves in a network and how they are seen by others. Network identity is how the network is perceived from the viewpoint of the actors in a network and is seen as part of the atmosphere of a network. Network identity is said to capture the attractiveness of a firm as an exchange partner in a network. | Network Atmosphere |
| Networking Intensity | Aldrich (1975) Van de Van & Ferry (1980) | Networking intensity is defined as the extent to which actor resources are committed to the network relationship, measured by frequency of contact and the volume of resourses exchanged. | Network Environment |
| Network Orientation | Overby & Min (2001) | Network orientation allows a firm to identify and concentrate on those business activities to which it is best suited, characterised by the relatationships between the network partners and the network outcomes. | Network Environment |
| Networking Outcomes | Van de Ven & Walker (1984) Powell (1990) Nohria & Eccles (1992) Jarillo (1989) Watson (2007) | Networking outcomes include shared knowledge, technology transfer, legitimacy, economies of scale and resource exchange. SME's can access resources external to the firm, improving firm performance. | Networking Performance |
| Networking Performance | Lehmann (2004) McLoughlin & Horan (2000) | The new construct of Networking performance is developed from the notion of | Networking Outcomes |

| Network Terms | Author(s) | Theoretical description | Link to conceptual model |
|---|---|---|---|
| | O'Donnell et al (2001) Rust et al (2004) Ottesen et al (2004) Haynes and Senneseth (2001) | performance in networks. Measures of networking performance include the perceived financial and economic benefits of networking. | |
| Network Profile | Achrol and Kotler (1999) Håkansson and Snehota (1989) | Defined as how the network is perceived from the viewpoint of the actors in the network. | Network Atmosphere |
| Network Resourses | Ford (2002) Hoang & Antoncic (2003) | The network resource construct emphasises how resources are developed and expoited through relationships. It is said to possess three dimensions: Network human capital resources, Synergy sensitive resources and Information sharing resources. | Network Capability |
| Network Size | Burg (1999) Ford et al. (2003) Håkansson and Snehota (1995) | A network requires a number of actors to be considered effective. It is not sufficient to simply count the nodes or connections in a network , as netwoks quickly expand through a complex set of inter-relationships to form complex network structures. | Network Atmosphere |
| Organisation Size | Mayhew et al (1972) Blau & Schwartz (1984) Schoenherr (1971) Wincent (2005) | Organisation size is a dimension of network capability. As the size of an organisation increases, the probability of external network ties and influence decreases. | Network Capability Network Atmosphere |
| Strength of Relationship | Achrol (1997) Anderson et al (1994) (Håkansson and Snehota 1989) Ritter (2002) | Strength of relationship is defined as the ability of a firm to develop and manage relationships with others in the network. | Network Characteristics Strong vs weak ties |

| Network Terms | Author(s) | Theoretical description | Link to conceptual model |
|---|---|---|---|
| Strong versus Weak Ties | Granovetter (1973) Johannisson (1988) Dubini & Aldrich (1991) Gargiulo & Benassi (1999) Uzzi (1996) | Networks have different structural and relational characteristics with varying strengths supported by a range of strong and weak network ties. The notion of strong versus weak ties in networks has featured frequently in the literature. | Network Characteristics |
| Trust | Eberl (2004) Currall & Judge (1995) Zucher (1986) Lanne & Bachmann (2001) Andersen & Buvik (2002) | Trust is an important dimension in relationships. It is defined as having a reliance and confidence in truth, of being reliable and being trustworthy. Network trust is dependent on and mediated by the network framework in which the relationship is embedded. | Networking Characteristics |

In the process of developing the conceptual framework, the theoretical perspectives from the markets as networks approach to understanding the indicators of networking performance have been investigated based on the most cited concepts and terms summarised in Table 3.1.

The development of a conceptual framework to investigate the linkages between networking activity and networking performance (NP) is based partly on the study of relationships in networks (Håkansson and Snehota 1995). This is one of a number of early studies at the core of the markets as networks approach, conceptualised in the framework developed to provide a method for understanding networks within a marketing context The research undertaken within the markets as networks literature

recognises the interdependencies, interaction and relationships, as important generic aspects of firms' behaviour and network orientation (Håkansson 1982). This is seen as the focal firm's perspective within the dyadic network construct and was influential in this study and the development of a conceptual model explaining NP.

In summary, by understanding what has influenced networking outcomes from prior literature, Table 3.1 has highlighted the constructs and measures of networking activity considered most likely to influence networking outcomes in the future. It is evident that a four constructs have been cited more often than others in describing the outcomes from networking, identified as; 1) network atmosphere, 2) network environment, 3) network capability, 4) network characteristics. These network constructs are highlighted in the emerging conceptual framework described in the following section.

### 3.2 Developing a Theoretical Framework

The four overarching, or higher order network constructs identified above are described numerical order together with their associated networking terms in the following sections.

#### 3.2.1 Network Atmosphere

The notion of networks having a discernable 'atmosphere' and therefore a clear identity, is seen as the result of the resulting social bonds and inherent attractiveness of the network, suggested by Granovetter (1985). The concept of network atmosphere is recognised as being problematic because of the interconnectedness of the terms surrounding phrases like network environment and network characteristics (Holmlund

and Törnroos 1997). Firms appreciating the relative attractiveness of embedded networks are able to describe the network atmosphere and perceive distinct differences in relative network performance (Ritter et al. 2004). Network atmosphere is considered to be an important precursor to understanding network identity, the network characteristics and therefore the attractiveness of the network from the firm's focal perspective within a network exchange, offering a more holistic perspective to the possibility of business-to-business networks (Birley 1985; Easton and Araujo 1994; Gadde and Mattsson 1987; Galaskiewicz 1985). Network atmosphere is therefore important in the development of long term relationships, their characteristics, antecedents and consequences, as well as the dynamic within the whole network (Henneberg et al. 2006).

**Network Attractiveness**

The idea of network attractiveness being a desirable quality from a firm's perspective is an established social phenomena, recognised within social groups or networks as a prelude to social interaction (Granovetter 1973). Attractiveness means to cause interest or pleasure and has been the subject of study in behavioural aspects of social psychology, social exchange and oganisational behaviour. Network attractiveness is defined as a mutual construct which describes the mutual interest between actors within a network (Ellegaard and Ritter 2008). Network attractiveness is determined by dimensions of emotional consideration, interaction process and value creation.

The conceptualisation of the environment of the firm as being socially bounded has been questioned in organisation theory and resource dependence theory (Miles and Snow

1986). However, drawing on this research, Anderson and Håkansson (1994) stressed the importance of social attractiveness in dyadic business relationships and the environment in which they operate. This idea was endorsed by Gadde and Mattsson (1987) and whilst these researchers generalised when talking about the social exchange perspective on dyadic relations and social networks, all agree that exchange relationships are contingent on network attractiveness. A firm's network perspective provides the context for reviewing the perceived attractiveness of a network of connected business partners (Håkansson and Snehota 1989). The concept of network attractiveness being influenced by the network profile and identity within the overall network atmosphere, is seen as the focal firm's perspective within the dyadic network construct and was influential in the development of the conceptual framework.

**Network Size**

Networks cannot be defined by a single firm or actor in a network. Relationships between firms and actors in a network are complex and the perspective of a network should be as broad as possible (Ford et al. 2003). Neither is it sufficient to count the nodes or connections in a single network, as seemingly simple networks quickly expand through a complex set of interrelationships to form complex network structures (Håkansson and Snehota 1995). Networks, whether formal or informal structures, are almost always overlapping, said to be viewed not as a constellation of networks but rather a galaxy (Misner and Morgan 2000). A network requires a number of actors to be considered effective but opinion on the minimum size of an effective network is divided, with researchers suggesting rather than an absolute number in a network, it depends how

influential the actors in the network are (Burg 1999). This follows the idea that networks consist of spheres of influence, with hub firms or actors attracting their own satellite of network contacts.

**Network Identity**

Actors have bounded knowledge about the networks in which they are engaged limited by the perceived network horizon and the inability to see beyond a number of network connections and relationships (Håkansson 1982). A network horizon will vary over time and the part of the network within the horizon that the actor considers relevant at any point in time is what according to Håkansson and Snehota (1989), gives the network its context or identity. It is this fluid configuration of connected firms that defines the identity of the network and the relationships which provide a perceived level of importance (Anderson and Håkansson 1994). In considering identity and identification in networks, Huemer et al. (2004) the notion of identities in networks is introduced which is said to enhance the awareness of interdependence and embeddedness, which in turn promotes a sense of belonging. However, the interpretation of network identity in this study differs from the perspective of Huemer et al. (2004), in that the focus of network identity is concerned with the marketing perception of image and reputation creating the network identity, as helpfully delineated by Ellis et al. (2011, p.402). In this thesis, it is the network 'identity' which is seen how defines how firms see the network as an entity itself, rather than hoe they see themselves in the network and how they are seen by others in the network. Because network identity is perceived from the viewpoint of the actor or firm, it is important to describe network identity in the context of the network under

consideration, and it is for this reason that it was considered in the same dimension as the perceived network atmosphere, suggested by (Achrol 1997; Achrol and Kotler 1999).

**Network Profile**

Network profile is defined as how the network is perceived from the viewpoint of the actors in a network (Achrol and Kotler 1999). It is seen in the same dimension as network atmosphere and is considered to be an an important operational factor in assessing the relative strength of a network. Network profile is described as being how the the network is seen by others (Håkansson and Snehota 1989).

### 3.2.2 Network Environment

The network environment and the idea of networks being defined by the behaviour of the actors within the network having a discernable purpose and therefore sense of destiny (Ford 1998), is encapsulated in the notion of the network environment being the enabler of network outcomes There is a link between network behaviour and outcomes and the resultant economic action (Granovetter 1985b). This has been the premise on which the nature of relationships and the exchanges they encompass have been investigated in the past. The notion of networks having a discernable environment, is built on a number of network observations and the concept of an equal power network, where members develop close relationships on the basis of reciprocal and mutually supportive actions developed (Thorelli1986). Research also suggests that where greater attention is directed to understanding the embedded context within which the dyadic business relationships exist, this provides useful measures of network performance, including resource

transferability, relationship cooperation, relationship commitment and network behaviour (Anderson and Håkansson 1994). Heterogeneity in dyadic network relationships, where actor perceptions differ, has been examined by successive researchers; Ford et al. (1998), Greve and Salaff (2003), Håkansson (1982), Holmlund and Törnroos (1997). Findings describe the variations in network perspective linked to network environment, where firms having different reasons for joining the network increased their perception of the value of network outcomes as the intensity of the networking contacts increased (Achrol and Kotler 1999; Medlin 2003b; Ritter 2002; Snehota 2003).

**Networking Behaviour**

Described as the interactive network process whereby actors seek to develop close relationships on the basis of reciprocal and mutually beneficial acts, network behaviour is seen to be a reliable indicator of performance in networks (Thorelli 1986). Network behaviour can be seen to have stabilising or destabilising consequences on the performance of the network. A business network is sustained by dyadic business relationships, which by their nature are dynamic and can be heavily influenced by the perceived behaviour of actors within the dyadic structure of the network, strengthening or weakening the network by their individual actions (Anderson and Håkansson 1994). Network behaviour is a conditioning process, influenced by individuals' actions within the group and the network horizon. Behaviour is bounded by the network environment, network rules, network traditions, relationships and business connections. The boundary may not be arbitrary but patterns of network behaviour can be measured against the actor's perception of network outcomes and network performance. This in turn influences

the network's reputation, conveying a sense of importance and competence in the network exchange (Achrol and Kotler 1999). Palmer and Richards (1999) identified that while actors believed in demonstrating positive networking behaviour, they were encumbered by present organisational behavioural norms and networking preferences.

**Networking Intensity**

Intensity refers to the extent of the interacting organisations' resources committed to the network relationship, in terms of frequency of contact & amount of resources (Aldrich 1979). Networking intensity is said to refer to the extent to which individuals (actors) honour their obligations to others in the network (O'Donnell et al. 2001). Intensity is also recognised as an important dimension of a network's environment (Gemünden et al. 1996; Haynes and Senneseth 2001). Frequency of interaction is considered likely to have a positive influence of firm performance (Üstüner and Iacabucci 2012). Successful networks are said to be characterised by consistent interaction among members and regular sharing of information (Hollenbeck et al. 2009, p.134). However, intensity alone may not be a indicator of networking performance but there is evidence that when linked with networking behaviour, networking intensity has a positive impact on networking outcomes (Van de Ven 1976).

**Network Activation**

Frequency of network activation is used as a measure by Üstüner and Iacabucci (2012, p.194) in a study of interorganisational embeddedness in networks and salespeople's

effectiveness. The construct is based on the frequency of activating network ties, rather than being a more traditional measure of the number of network ties, or contacts in a network. Network tie activation may be by a face-to-face meeting, a digital communication or some other identifiable network activation activity. Network activation may be formal, i.e. in a network meeting or informal, in a more social setting. Steward et al. (2010, p.563) found that salespeople were more likely to use their personal contact network first before turning to more formal network systems, suggesting that salespeople should "enhance the value and usability of formal network systems".

**Network Contacts**

Network analysis was based on studying the dyadic connections between actor nodes and the subsequent ties in a network. From this the study of the interconnections and relations in networks emerged Ford et al. 2003). Salespeople were found to create customer value by gaining access and leveraging talent from their network contacts to develop and deliver customer solutions (Steward et al. 2008). But in considering the value of network contacts, Üstüner and Godes (2006, p.102) found "managers often view sales networks only in terms of numbers of direct contacts. But someone who knows a lot of people doesn't necessarily have an effective network, because networks often pay off most handsomely through indirect contacts". The notion of network contacts is associated with network ties and the strength of weak ties in considering the issue of embeddedness in networks (Granovetter 1985). There are clear overlaps in the literature when discussing network contacts and relationships in networks in the context of a business network from the perspective of the focal firm or actor.

### 3.2.3 Network Capability

A framework for understanding the importance of networking capability in the overall performance of networks is presented by the literature on the dynamic capabilities view of the firm (Teece et al. 1997). The degree to which relationships are embedded in a network and the resulting social bonds identified by Granovetter (1985) and developed by Holmlund and Törnroos (1997), are responsible for creating the networking environment. Dynamic capabilities are the organisational and strategic routines by which managers alter their firms' resource base through acquiring, shedding, integrating and combining resources to generate value creating strategies (Eisenhardt and Martin 2000).

Network capability is defined as a composite of alliance experience and the existence of a dedicated alliance function, which focuses on the more structural set-up of the firm (Kale et al. 2002). An issue in the capabilities literature is the relationship between capabilities and performance, the focus in this research being networking performance. Network 'capability' has been the subject of a number of studies, defining network capability in terms of developing inter-organisational relationships with a view to accessing resources. (Anand and Khanna 2000; Walter et al. 2006). Ritter (2003) argues that network competence is aligned to network capability, being a firm's ability to develop and use inter-firm relationships, which can be measured by task execution and qualifications. However, network competence is also seen as a network characteristic and distinct from network capability (Wilson and Nielson 2000). Therefore in this study, network capability is viewed as being separate from network competence, on the basis that an

actor may possess network capability but not necessarily demonstrate network competence.

**Degree of Embeddedness**

The importance of 'embeddedness' in network relationships was recognised by Håkansson (1987) with the extent to which an actor was embedded in a network having a positive effect on network outcomes. Holmlund and Törnroos (1997) also describe 'embeddedness' as being the degree to which an actor firm is embedded in a network, with the concept of embeddedness relating to the linkages of economic action and outcomes. Similarly, firms appreciating the relative attractiveness of embedded networks are able to describe the network atmosphere and perceive distinct differences in relative performance (Ritter et al. 2004). Recognising the significance of embeddedness to business networks, Üstüner and Iacobucci (2012, p200), posit that embeddedness is expected to improve economic outcomes.

**Network Orientation**

Firms seeking positive outcomes from engaging in networking activities inevitable make mistakes in selecting network partners due to what has been described as a lack of network orientation (Overby and Min 2001). Positive network orientation is said to allow a firm to concentrate on those business areas for which it is best suited and to contract with network partners for everything else. This implies a strategic and integrated systems approach to networking and a common perspective with which network members collaborate for the common good of all in the group. This is based on

cooperative norms that are defined as the beliefs that both parties in a relationship must combine their efforts and cooperate to be successful. Network orientation is characterised by the interdependencies and level of interaction between associated network partners. Overby & Min (2001) refer to network orientation in terms of coordination and integrated systems between organisations.

**Organisation Size**

Organisational characteristics vary according to organisation size, which together influence and shape social interaction within a network. As the size of the organization increases, the expected number of contacts per person also increases at a pro-rata rate but time and the availability of resources eventually dampens the effect (Ritter 1999). Equally, as the size of the organization increases, the probability of external network ties and influence decreases (Blau and Schwartz 1984). This suggests that it is difficult to sustain the networking effect and subsequent benefits as an organisation grows and differentiates. Similarly, in a study of the effect of firm size on network capability and firm performance in networks, networking width being the number of networking partners was found to be an important interaction term for performance implications from pursuing corporate entrepreneurship and networking performance (Wincent 2005).

**Network Resources**

Network relationships are viewed as the means by which actors gain access to a variety of resources held by other actors (Hoang and Antoncic 2003). The network literature emphasises how each company's resources are developed and exploited through

relationships (Ford 2002). The network resource construct is said to possess three dimensions: network human capital resources, synergy sensitive resources and information sharing resources (Li and Lin 2006). Li and Lin also state that network human capital resources include technical capabilities, network management, industry knowledge, network experiential knowledge. The concept of synergy sensitive resources is based on the notion of complimentary resource endowments and refers to the level of overlap or similarity between firms in the network. The final dimension of network resources is information sharing, the ability to exchange, assemble, integrate, and deploy valuable information across network boundaries (Li and Lin 2006).

### 3.2.4 Network Characteristics

There is a strong association between positive network characteristics and network outcomes (Ritter 2000). The network characteristics construct has established linkages to network competence, trust, allegiance and strength of relationship. The idea of network characteristics varies according the firm's focal perspective depending on the frequency of contact, resources committed and the social dimension of the relationship (Easton 1992).

A firm is likely to have a mix of strong and weak ties in a network (Granovetter 1973). Kale et al (2000) argue that firms benefit from a portfolio of network characteristics which appeal to the network members, depending on the conditions surrounding the firm. The model proposed in this chapter, argues that network characteristics are an important antecedent to understanding aspects of networking outcomes within the paradigm of

networking performance. A strong allegiance to a positive set of network characteristics was seen to be more beneficial in terms of execution and integration into a network (Easton and Araujo 1994). Network characteristics foster the capability to interact with firms and encourage a sense of reciprocal benefit and closeness among firms. Issues such as mutual respect, social skills, communication skills and the level of co-operation are part of network characteristics and network capability. Finally, trust is seen as a networking characteristic which affects the depth and richness of exchange relations and is an essential prerequisite for most forms of interdependent relationships in networks (Moran 2005). This model proposes examining network characteristics as an indicator of networking outcomes.

**Strength of Relationship**

Relationships are seen as a prerequisite to successful networking and the development of inter-firm relationships. There has been a considerable body of research investigating the nature and development of relationships in networks (Achrol 1997; Anderson and Håkansson 1994; Håkansson and Snehota 1995). As Ritter et al (2002) observe that the ability of a firm to develop and manage relations with key suppliers, customers and other organisations is a core competence of a firm, having a direct bearing on a firm's competitive strength and performance. The extent to which firms are able to manage relationships is the subject of continuing research (Möller and Svahn 2003). Medlin (2003) suggests that in considering the interaction between firms to create various forms of business relationship it is important to recognise the difference perspectives between actors' views of the relationship. Relationships are also seen to be influential in creating

business networks and therefore important in managing relationships in networks (Ritter et al. 2004). Terziovski (2003, p.91) suggest that networking practices have a significantly positive effect on business excellence and found that the strength of relationship between networking practices and business excellence to be significant and positive. Relationships in networks have been considered by a number of characteristics , including mutuality, symmetry, power dependence and resource dependence. However, Holmlund and Törnroos (1997, p.306) suggest that in considering the long-term character of relationships in networks, the two important aspects are (1) continuation; where relationships are said to endure and be long lasting and (2) strength; where strength refers to a firm's resistance to disruption in a relationship, which is said to increase over time, strengthening network bonds and increasing respective firm performance. Similarly, Richards and Jones (2009, p.312) found that relationship effectiveness had a positive effect on sales performance. From early discussions with executives in firms willing to collaborate on this research project, it became evident that it was not the relationship alone but the strength of the relationship that was likely to be significant.

**Strong versus weak ties**

It is acknowledged that networks with different structural and relational characteristics have specific strengths and that a number of network ties are required to support business development (Aldrich and Zimmer 1986; Brass et al. 2004; Dubini and Aldrich 1991; Gargiulo and Benassi 2000; Granovetter 1973; Johannisson 1988). Brass et al (2004) argue that the shift of network research from simple considerations such as the existence or non-existence of a relationship, to consideration of the relative strength and content of

the relationship is needed to distinguish between theoretical predictions. The network literature is primarily concerned with the nature of the relational bond between two or more actors, as well as the effect this bond has on shared activities (Frenzen and Nakamoto 1993; Granovetter 1985a; Hansen 1999; Uzzi 1997). Researchers typically classify the relationship between actors as being linked by either a strong tie or a weak tie (Rindfleisch and Moorman 2001). By treating strong and weak ties as separate constructs rather than degrees of one another, Rowley et al (2000) state that this captures richness in the data, which past researchers see as important in understanding network effects and firm behaviour (Rowley et al. 2000).

Uzzi (1996) argues that strong ties are associated with the exchange of high-quality information and knowledge. In the development of strong ties, inter-firm partners learn about respective organisations, they become more dependent on one another and develop relational trust (Larson 1992).

Granovetter (1973) argues that weak ties are conduits across which an actor can access novel information. Weak ties are more likely than strong ties to be 'local bridges' to distant others possessing unique information. The strength of weak ties argument is as much about structural embeddedness as it is about relational embeddedness. A weak tie can be beneficial because it is more likely to embed an actor in or provide access to divergent regions of the network rather than to a densely connected set of actors. For example, Granovetter (1973) suggests that an actor's collection of weak ties is more likely to reach divergent regions of the surrounding network. In practice, a firm

embedded in a network is likely to have access to a range of both strong and weak ties and use these both strategically and tactically in the pursuit of business aims.

**Trust**

Without a notable dimension of trust, concepts like networking seem to promise little efficiency (Morgan and Hunt 1994). Consequently, trust is considered as being important in building relationships a strategic and operational level. There are difficulties concerning actors in a network trusting an organisation, rather than another individual and indeed firms trusting each other. The issue is to what extent trust can be generalised and institutionalised beyond individual perceptions. It is recognised that inter-firm trust is especially dependent on and mediated by the institutional framework in which the relationship is embedded (Lane and Bachmann 1996). However, despite trust being an important component in creating relationships, researchers in the markets as networks tradition have often ignored trust when describing network effectiveness and networking performance.

**Allegiance**

Like trust, allegiance is also frequently identified as a network construct in dyadic studies (Wellman and Berkowitz 1988). Creating effective relationships in networks requires a co-operative approach towards inter-firm interaction, focusing on the quality and strength of the relationship which in-turn reinforces the allegiance of the network partners (Andersson and Forsgren 2000). If the focal firm has to select between two or more potential exchange partners, the perception of goal compatibility, trust and performance

of the different candidates are likely to be important indicators. Such types of information, in particular concerning compatibility and trust, are most likely to be based on direct experience (Moorman et al. 1993; Morgan and Hunt 1994). From a network perspective, these ideas are important because they suggest that the context of trust, which will differ systematically across business environments, exerts an important influence on the network relationship, linking the degree of trust and the strength of the relationship.

**Networking Competence**

Network competence is defined as the degree of network management task execution & the degree of network management (Ritter and Germunden 2003). Networking competence is considered a core competence of the firm according to Prahalad and Hamel (1990), highlighting the importance of networking as a root to competitive advantage. According to Prahalad & Hamel (1990, p.83), membership of a network provides potential access to a wide variety of market benefits and "can make a significant contribution to the value of the firm and may be difficult to imitate''. Increasing attention has been paid to a firm's competencies by both academia and managers. While the focus traditionally has been on technological competencies and their impact on corporate success, more recent studies have included managerial competencies and networking competence in particular (Freis et al. 2003). The term networking competence is used to describe the skills, knowledge and resources necessary to perform certain network tasks. Network competence has been defined also as a process of activities (Drucker 1992). This view is endorsed by Ritter (2003) who examined aspects of network competence,

including the necessary knowledge, skills and qualifications to network effectively, distinguishing between the tasks that need to be performed in order to manage a firm's technological network and the qualifications, skills, and knowledge that are needed in order to perform these tasks.

In this study, competencies form the collective networking knowledge of a firm and in particular the capacity for the team of resources to perform some tasks or activities (Grant 1991). A competency is created from a combination of network resources, created by networking processes that are used to achieve a desired objective (Ritter and Germünden 2003). Network competence and network capability are seen to possess different attributes in the development of this construct and the subsequent model development.

Ritter and Gemünden (2003) incorporated both aspects in their concept of network competence including both having the necessary knowledge, skills, and qualifications as well as using them effectively. With regard to network competence, they distinguish between the tasks that need to be performed in order to manage a company's technological network and the qualifications, skills, and knowledge that are needed in order to perform these tasks (Gemünden & Ritter 1997; Ritter 1999). Therefore network competence is created from a given combination of resources which have been made by using network processes that are used to achieve a desired objective (Ritter et al. 2004).

### 3.2.5 Networking Outcomes

In the network literature, there is empirical evidence that inter-firm and networking ties improve the performance of a focal firm when measured as tangible networking outcomes (Van de Ven 1976; Walker and Ruekert 1987; Walter et al. 2006; Watson 2006). Researchers have argued that network linkages are effective for sourcing and transferring knowledge that will lead to positive networking outcomes, resulting in a competitive advantage and increased business. Networks are also thought to enhance the survival and capabilities of firms by providing opportunities for shared learning, transfer of technical knowledge, legitimacy, and acting as a resource exchange (Nohria and Eccles 1992; Powell 1990). However, research is still limited regarding the influence of network relationships on the performance of firms. Network theory suggests that the ability of owners to gain access to resources not under their control in a cost effective way through networking can influence the success of business ventures (Prahalad and Hamel 1990).

Florin et al (2003) suggest that networking can provide value to members of a network by allowing them access to the social resources embedded within a network. In particular, it is suggested that networking can provide the means by which SME owners can tap into needed resources that are external to the firm (Florin et al. 2003). Julien (1993) observed that this form of networking co-operation can achieve effective economies of scale in small firms, helping them to 'punch above their weight' without producing the complexity caused by managing in larger organisations. Therefore using networks and networking can potentially lower a firm's risk of failure and increase its chances of

success (Julien 1993; Watson 2007). Given the significant financial and human costs that inevitably follow a business failure, researchers have long been interested in the factors associated with firm performance (Bonner et al. 2005; Cooper et al. 1994; Leek et al. 2002; McLoughlin and Horan 2000; Rust et al. 2004; Thorngren et al. 2010).

However, earlier research tended to overlook the ways in which firms are relationally embedded within the networks and how this might affect networking outcomes (Watson 2007). While there are many factors that can influence the success of a networking venture, there is growing evidence from researchers that there is a strong connection between the strength of relationships in a network, the degree to which the actors are embedded in a network and the network outcomes (Medlin 2003b; Möller and Hallien 1999; Ritter et al. 2004).

Despite support in the literature for the linkages between networking activity and network outcomes as above, there are researchers who have been unable to find a significant relationship between networking activity and firm performance (Aldrich and Reese 1993; Cooper et al. 1994). There have been a limited number of studies that have documented a positive association between networking and various aspects of firm performance. For example Donckels and Lambrecht (1995) found that network development was positively associated with firm growth. Similarly, it is noted that entrepreneurs who failed to seek assistance through a network were less successful in acquiring external resources (Hustedde and Pulver 1992). The notion of firm performance in strategic networks was interesting, where firms which captured the impact of social networks on their strategic

development found positive benefits (Gulati et al. 2000). Hung (2002) argued that strategies for achieving differentiation by networking can be based on a wide variety of external social networks of relationships, including political, alumni, family and social links, placing greater reliance on relationship performance in a wider context.

The implications for managers are that firms need to expand their external networks of relationships to secure their survival and growth. There is a growing body of literature highlighting the potential influence of network relationships on a firms' survival or growth. Watson (2007) for example found a positive relationship between networking, particularly with formal networks and firm survival, and to a lesser extent growth but interestingly not profitability. Watson (2007) further suggest that network intensity is associated with survival and network range is associated with growth. In a separate study Bonner et al (2005) examined the relationship between a firm's perception of network outcomes and firm performance, concluding that there was a positive relationship which offered an enduring strategic advantage.

In concluding this section, twenty one network and networking concepts identified from the literature have been summarised and collated under four overarching constructs, 1) network atmosphere, 2) network environment, 3) network capability and 4) network characteristics. The constructs presented above are identified as antecedents of networking outcomes and potential indicators of NP. In the following section, a conceptual framework is developed based on the networking concepts described above.

### 3.3 Conceptual Framework

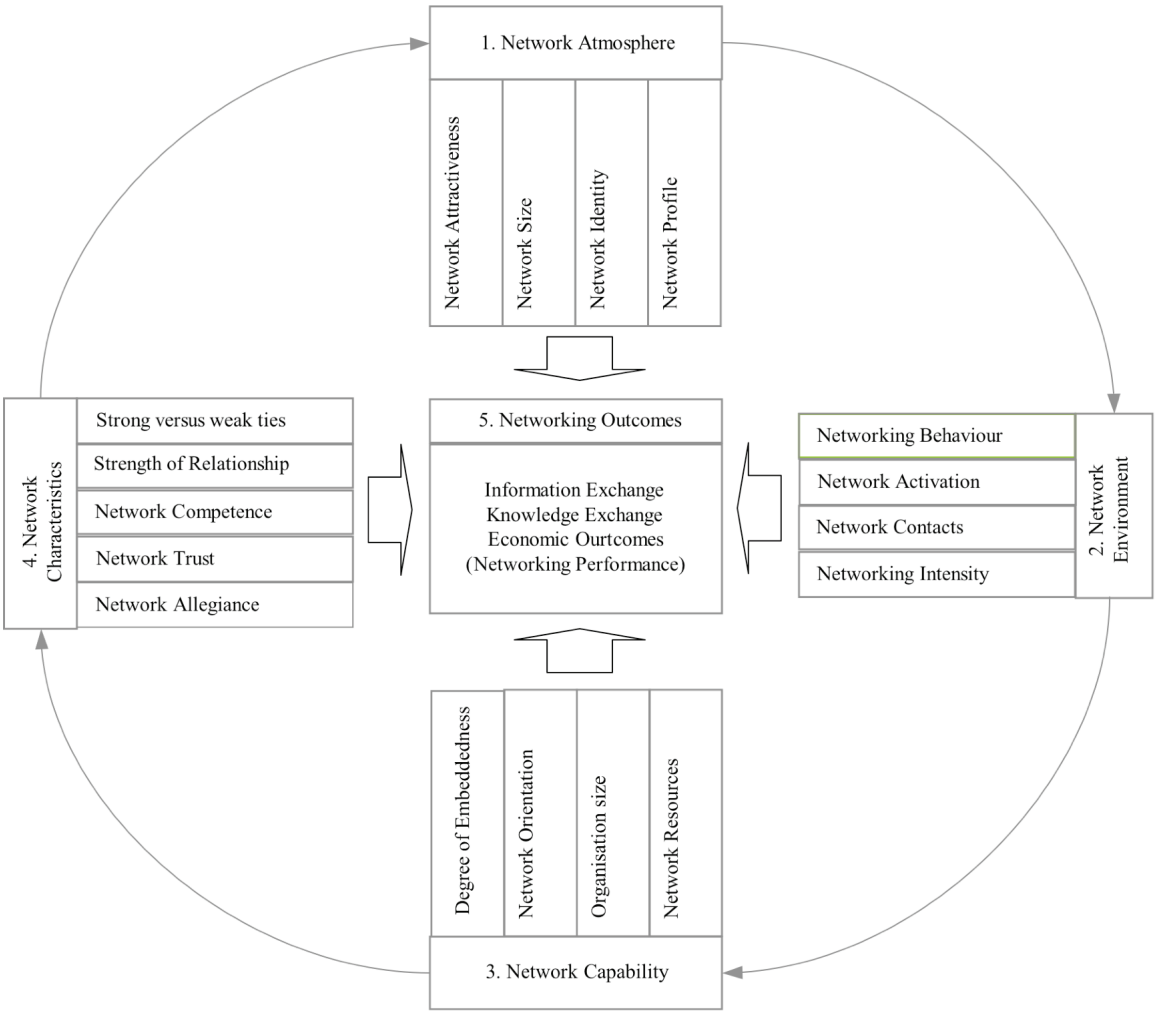
The objective of this section is to develop a conceptual framework which identifies the constructs most likely to influence the networking outcomes and therefore the preferred approach to conducting this research, facilitating the next stage in this study. The framework is designed to visualise the inter-relationships between network and networking concepts with networking outcomes, in this case the indicators of networking performance. The development of a theoretically based conceptual framework is the first stage in the process of identifying a conceptual model capable of being tested using a quantitative methodology.

However, the review of the literature draws attention to the overlap in the description and conceptualisation of many of the network terms. For example, network atmosphere and network environment share similar descriptions and are frequently interchanged. Similarly, there is a cross-over in the literature between the networking constructs of network environment and networking capability, with competence and capability frequently used to describe the same networking effect. It was evident that the networking terms would require some refinement if they were to be effective in describing NP. As Ritter et al. (2004, p.181) in a study of networking ability, suggest that the task is to fine-tune the understanding of networking capabilities, to develop good measures for them, and to empirically examine how they contribute to the relationship and network development and the firms performance.

Having considered the influence of the various networking constructs described in the previous section, and taking into consideration the factors linked to networking performance discovered during the pre-survey interviews, a conceptual framework was developed linking a range of networking constructs to proposed independent variables. The objective is to understand the effect of the network constructs on networking outcomes and to measure NP. The dyadic nature of network relationships where actor perceptions differ, presents a problem for researchers seeking a quantifiable approach relying on simple aggregation to analyse actor constructs. Based on the outline theoretical framework developed in this chapter, the antecedents of networking outcomes are considered to influence NP. Network concepts and outcomes are said exist within a network environment and together influence the nature of the network exchange from a network perspective (Medlin 2003b). Based on the above observations, a conceptual framework is presented in Figure 3.2.

**FIGURE 3.2**

**Conceptual Framework**




The conceptual framework in Figure 3.2 shows the four theoretical constructs and their associated concepts represented diagrammatically, suggesting their potential influence on the identified networking outcomes. The framework suggests that outcomes may include knowledge, information and economic benefits. In this study, networking performance (NP) linked to financial performance (sales turnover) has been identified as the dependent variable.

Financial and economic exchange, used to measure the economic value of the network relationship and the financial benefits of a network relationship are a major factor in describing networking success (Dennis 2000). The positive outcomes of networking activity identified by McLoughlin and Horan (2000) also suggest that the financial aspects of a networking relationship are a major factor contributing to networking success. However, the number of constructs identified in the development of this chapter makes selection of the independent variables more difficult than originally assumed. The duplication of networking terms, the overlap of approaches to describing network and networking constructs, and lack of clarity makes selection of measurable variables which can be tested using a statistical regression model, suggested that further refinement was required before a parsimonious model could be developed.

### 3.4 Discussion

In this chapter the different approaches to researching networks, concepts and constructs have been identified and reviewed as potential indicators of networking performance. The earlier critique of the literature found there were many examples of network terminology used to describe networking activities but without the adherence to clarity of definition or consistency of description. For example the terms network environment and network atmosphere, both important in describing how networks develop and grow, but lack the precision or consistency of meaning to be sure of selecting the right construct and developing robust measures. However, there were a number of concepts identified in the literature and shown in Figure 3.2 which have been tested in the past and therefore

provided a high level of confidence that they could be used to develop a theoretical framework and conceptualise a model of networking performance.

The problem in refining the conceptual framework with twenty one potential variables is that too many variables have been identified to be sure that those best suited to the study may be selected with confidence. It was therefore decided to undertake a two-stage research design, with an initial qualitative phase to pre-test the concepts in a series of face-to-face interviews with experienced members of business networks. The objective was to improve the quality of data and gain a better understanding of the variables from a practitioner perspective, as a prelude to refining the list of variables to be used in a conceptual model.

# Chapter 4

# Method

**Chapter Content**



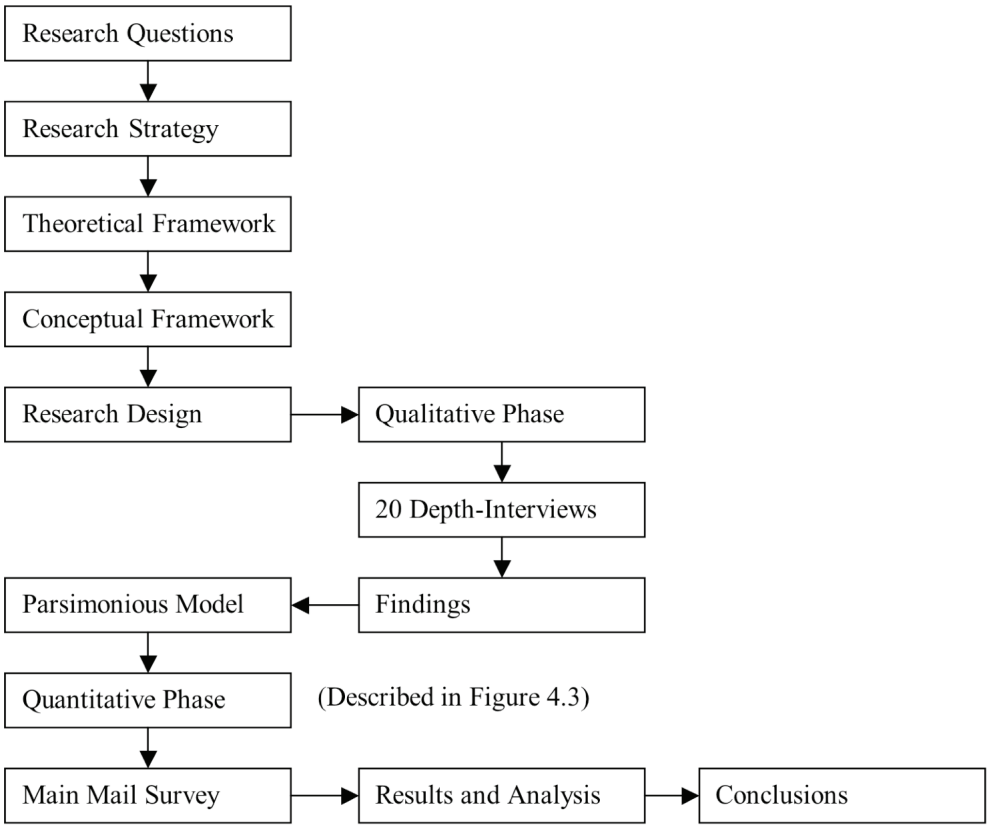
## 4.0 Introduction

The purpose of this chapter is to describe the research strategy used in the development of this thesis and to discuss the hybrid method adopted to undertake the research task. The conclusion reached in the previous chapter was that without further refinement, it was going to be difficult to select a defined number of independent variables capable of being tested in a model of networking performance (NP). With twenty one potential networking constructs identified in the literature, there were too many similar or overlapping variables to be able to easily create a testable model without some further refinement. It was therefore decided to revise the research strategy to see whether a hybrid or multi-strategy approach may be more appropriate to this study.

The idea of using more than one research method to refine data or develop a more comprehensive conceptual framework has been frequently recommended in the literature. It is suggested that a hybrid approach can enable a study to take the strengths of both qualitative and quantitative data to forge a stronger research strategy (Robson 1995).

**FIGURE 4.1**

**Research Process** (adapted from Alreck & Settle 1995, p.26)




In the hybrid model shown in Figure 4.1, the process suggested by Alreck and Settle (1995) has been adapted and expanded to show the sequence of activities followed in the development of a hybrid approach used in this study. The qualitative research design

adopted in this thesis, used depth-interviews with experienced business networkers in the process to refine the list of network and networking constructs. The hybrid or multi-strategy approach, where qualitative research facilitates quantitative research, can be used to guide quantitative research and aid the development of hypotheses which may subsequently be tested (Bryman and Bell 2004).

The evolved research strategy is therefore not bound by the constraints of the pure 'positivist' approach as described by Bryman and Cramer (1999) but rather adapts its approach to the markets as networks theoretical domain and the operationalised networking environment in which the research is conducted. A key aspect of 'positivism' is that it takes a reductionist approach to exploring the relationships between the variables being studied. This is considered necessary in order to be able to control an experiment or an investigation and to be able to understand how the variables concerned are behaving (Wessley 1994). This philosophical stance was an important influence in developing a methodology to inform the choice of survey method using a hybrid strategy based on this positivist ontology. The epistemology being explanatory in nature as the research seeks to explain the reality and make a statement about the relationship between networking activities and NP.

Methodology, being the techniques used in the research is considered as one of three elements of a framework which include ontology and epistemology, which researchers either explicitly or implicitly work within. For its part, positivism is one of four

paradigms, which together with realism, constructivism and critical theory form the basis of most scientific research (Wessley 1994).

In deciding which research design to adopt, exploratory research was rejected as it cannot be used to test hypotheses and its findings are regarded as tentative rather than conclusive. For similar reasons, causal research could not be used since it is not possible to manipulate or control the variables used in this study (Bryman and Bell 2004). The preference was therefore to adopt descriptive research as it was considered most appropriate for testing the emerging conceptual model and hypotheses. Similarly, the decision was made to adopt a cross-sectional design rather than a longitudinal research design, as a cross-sectional survey had the advantage of reduced time and lower cost, better suited to the the nature of this study and its objectives.

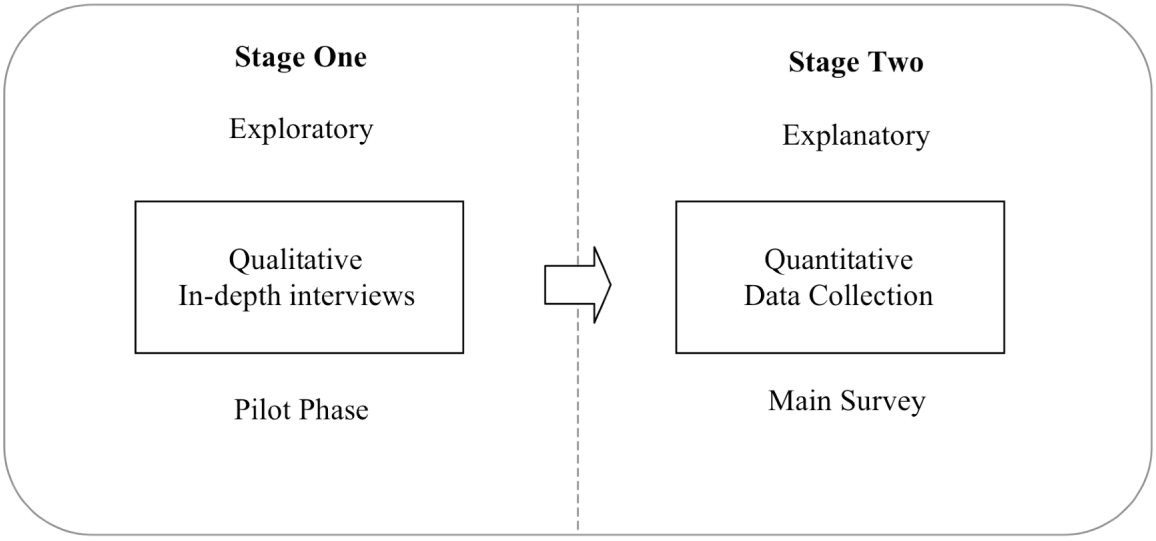
A positivist research was favoured because it imposes a logic on what is being measured and relies on theory to test the subject of the research through quantitative methods. To achieve this, the main survey used a quantitative methodology to generate objective results. However, as suggested above, there were too many similar or overlapping independent variables to be able to easily create a testable model of NP. Consequently, it was decided to gain a better understanding of how the identified variables worked in an operational environment, with the aim of refining the constructs prior to conducting the main survey.

The decision was taken to initiate twenty in-depth face-to-face interviews with experienced business networkers, to identify what the respondents considered to be the most important contributing factors to creating positive networking outcomes and therefore better understand what constitutes 'networking performance'. Senior executives were selected on the basis of their experience of business-to-business networking. A semi-structured interview schedule was developed from the conceptual framework described in Figure 3.3. It was considered that this approach to refining the list of potential variables and developing the conceptual model would produce a more relevant and focused set of hypotheses, with the aim of creating a testable model of NP.

The practice of using the output from an exploratory qualitative survey, to assist in the design of a large scale quantitative survey is endorsed by Robson (1995). This suggests that a pilot study will often improve the quality of data collected as empirical evidence, described in Figure 4.2 below. Another benefit of utilising a qualitative method based on ethnographic considerations, is that comprehension increases as data collection progresses through a semi-structured interview process (Morse 1994). Personal interviews are also said to provide the most complete contact with the respondent and allow an audio record of the interview and the respondents experiences to be made which can be transcribed to produce a usable script (Alreck and Settle 1995). Synthesis of networking experiences can then be facilitated by the process of coding and content analysis adopted by Bryman and Bell (2004).

**FIGURE 4.2**

**Research Strategy**




The strategy was based on using the findings from the pilot study to identify the variables which, in the opinion of the respondents in the depth-interviews sample, were the most important in determining networking outcomes and therefore would assist in creating a conceptual model to measure the constructs indicating networking performance.

**STAGE ONE:**

**4.1 Rationale for the Qualitative Phase**

During the process of reviewing the literature for this research, it became clear that the apparent lack of clarity and definition for several networking terms and the resulting difficulty in selecting measurable indicators of NP, meant that some refinement of terminology was required. This necessitated exploratory research, based on the need to describe the networking terms using 'operational' terminology and placing this in a

business context. It was important that the respondents could easily interpret the questions and complete the main mail survey without difficulty. This hybrid or multi-method research strategy, where a qualitative phase is used to facilitate and refine the questions in the main quantitative phase is commonly used in applied business research (Bryman and Bell 2004; Cooper and Schindler 2003; Jankowicz 1995).

This qualitative phase was also considered important for the profile of the research, where active support from recognised business leaders in the West Midlands was a prerequisite for promoting the legitimacy and creditability for the project. It was important for the success of the study that participating in the survey was actively promoted by these business leaders, being recognised for their position of influence within the business community. It was also important for the overall project to secure the support of the regional development agency, Advantage West Midlands, which was supporting the research and therefore interested in the findings. By openly promoting the benefits of the study to the region's business leaders and networking groups at an early stage in the project, it was hoped to encourage the widest possible support for the study when the main survey was launched.

Despite the apparent operational advantages of conducting a pilot study prior to the survey, the literature suggests that this stage is often omitted from the research process due to either time or cost pressures (Lehmann 1979). This opinion is supported by Hunt et al. (1982), commenting that despite the widely recognised importance of pilot-testing in survey research, pilot surveys have received little methodological attention. Items that

may be tested can be specific question areas, use of terminology, or the survey instrument itself. The pilot study process can be administered by (1) personal interviews, (2) telephone interviews, or (3) self completed reports. Personal interviews are the most time-consuming and costly method but arguably the most beneficial, as they enable the interviewer to gain a much deeper understanding of the issues through good eye contact, by listening carefully to the responses and by watching for hesitation or uncertainty.

Because it was important to encourage the support of business leaders who would then act as advocates for the main survey, it was decided that a personal interview would be the preferred approach. This offered the advantage of a face-to-face interview with senior executives acknowledged within the business community for their networking experience. The interviews were planned and conducted by myself, as I felt it was important to be seen to be leading the survey and to be able to demonstrate competence in both the subject of business networking and the research process. There is some ambiguity in the literature as to the selection of the interviewer in the survey process. Boyd et al. (1977) recommend that only the best interviewers be used in pilot survey work, whereas Backstrom and Hursch (1963) suggest that in the pilot survey it is useful to use different interviewers to be able to assess problems with the interviewer as well and the respondents. Tull and Hawkins (1976) recommend that in the pilot survey, the nature of the interviewer is as close to as possible to the respondents, which helps to overcome potential objections to participating in the survey.

### 4.2 Sample Characteristics and Method

In deciding the size of the sample in the qualitative survey there is a consistent view in the literature that the sample is necessarily 'small'. Hunt et al. (1982) suggest that the sample is between twelve and thirty respondents, with twenty recommended by Boyd et al. (1977). This was the number that was adopted for this survey as twenty depth interviews was considered sufficient to gain a spread of opinion, without being too costly or time consuming to complete.

The sampling method chosen was snowball sampling, recommended as a practical solution for sample selection in industrial marketing research and used successfully by Dawes (1987). The term 'snowball sampling' was used by Goodman (1961) in a multi stage process to produce a sample from a finite survey population. As Dawes (1987) states; "In the social sciences, the term 'snowball sampling' is used more loosely, being applied to any technique to develop a sample of a population by using an initial set of respondents as informants to aid finding additional members of the population of interest, that can be subsequently interviewed". The decision to use snowball sampling to reach the desired senior executives is supported by Moriarty (1983) as the technique enables high quality respondents, a high response rate and increased quality of data.

To meet the qualitative survey criteria respondents needed to be recognised within the business community as being; (a) an experienced business networker, (b) chief executive or director level, (c) being an active member of one or more business networks, (d) located within the West Midlands region. Six prominent business leaders with excellent

network connections were identified with the assistance of the Regional Development Agency (AWM), Birmingham Forward (professional business services agency), Business Link (West Midlands) and the Chambers of Commerce. Telephone appointments were made with identified contacts who met the sample frame criteria. The interviews commenced with Birmingham based business leaders. The suggested contacts were known to be members of one of the regional development groups and therefore active in business-to-business networking circles and formed the 'key informant' group to assist in the design of the main survey instrument.

The purpose of the study was explained to the potential respondents during an initial telephone call and once agreement to participate in the pilot study was obtained, details of the interview were confirmed by e-mail, together with a summary of the interview protocol and its objectives. The interview was structured around the six areas of interest described below, using a series of open questions based on the following headings:-

Section 1: Networking experience and membership of business networks

Section 2: Network environment, behaviour, attitude and approach to networking

Section 3: Network characteristics, relationships, trust, allegiance and collaboration

Section 4: Network capability, membership, priorities, competence and resources

Section 5: Networking outcomes and networking performance

Section 6: Finally, profile of the respondent and their organisation

Recording and coding responses at the face to face interview stage is considered a critical part of the qualitative study (Bryman and Bell 2004). The coding schedule followed the format and sequence of the six areas described above. The main purpose of the semi-

structured interview was to gain a better understanding of what the respondents considered to be the main factors influencing networking performance from the list of nineteen constructs described in Figure 3.3. According to Morse (1994) the number of variables considered in this type of study is often much greater, requiring an extensive coding schedule and a coding manual to facilitate analysing the responses.

Where respondents introduced a new category this was recorded, with the respondents asked to expand on what the category name meant and whether in their opinion it was similar to other categories mentioned during the discussion. The process of synthesis proved easier than expected, as the respondents described networking performance in similar terms, enabling the categories to be grouped together in the coding schedule summarised below in Table 4.1. The coding schedule allowed each concept to be scored as positive, neutral or negative in its contribution to facilitating the process of understanding NP. The scores were aggregated to produce an overall score for each construct. The aim was to record and summarise the responses and then compare the identified concepts with those found in the literature, as part of the process to refine the concepts and produce a smaller number of distinctive constructs and independent variables in the final parsimonious model.

**TABLE 4.1**

**Coding Schedule**

| Network Concept | Code | Network Concept | Code |
|---|---|---|---|
| Networking Performance | NP | Strength of Relationship | NR |
| Networking Behaviour | NB | Network Organisation | NO |
| Networking Intensity | NI | Network Activation | NG |
| Network Attractiveness | NA | Degree of Embeddedness | DE |
| Network Characteristics | NC | Networking Profile | NF |
| Network Membership | NM | Network Identity | ND |
| Network Trust | NT | Network Allegiance | NL |
| Network Influence | NU | Network Contacts | NC |
| Network Competence | NE | Strong vs Weak Ties | SW |

Interviews were conducted with directors from leading firms of chartered accountants, major legal firms, bankers, consultants, manufacturers, financial services companies, public/private partnerships, members of networking organisations including the chambers of commerce. Respondents were selected to be representative of the major commercial and industrial locations in the West Midlands. They were identified as being active members of business networks within their chosen networks and were recommended by their colleagues based on a snowball sampling technique (Dawes 1987). The respondents were happy to be identified as contributors to the study but consistent with the need to maintain anonymity for the purposes of this research and in-line with best practice as recommended by the Market Research Society, only initials will be used in the summary.

There were an approximately equal number of males and females in the sample and all had a minimum of two years networking experience, with most having considerably more experience of working within different business networks.

**TABLE 4.2**

**Qualitative Study Respondents**

| | Job Title | Organisation | Town | Ref |
|---|---|---|---|---|
| 1 | Chairman | Regional development agency | Birmingham | DB |
| 2 | Senior Partner | Regional law firm | Coventry | CC |
| 3 | Managing Director | Publishing Company | Lichfield | SA |
| 4 | Director | Major manufacturing company | Stoke on Trent | BB |
| 5 | Director | Management consultancy | Telford | AM |
| 6 | Senior Partner | International management consultants | Birmingham | MH |
| 7 | Senior Partner | International management consultants | Birmingham | RE |
| 8 | Partner | International law firm | Birmingham | SL |
| 9 | Chief Executive | Development corporation | Birmingham | RB |
| 10 | Director | Chamber of Commerce | Stafford | ST |
| 11 | Managing Director | Chamber of Commerce | Telford | NG |
| 12 | Managing Director | International manufacturer | Walsall | BF |
| 13 | Sales Director | Replacement window company | Shrewsbury | TR |
| 14 | Senior Partner | Regional law firm | Telford | GD |
| 15 | Director | Property surveyors | Coventry | DP |

| | Job Title | Organisation | Town | Ref |
|---|---|---|---|---|
| 16 | Director | Property agents | Coventry | KC |
| 17 | Managing Director | Vehicle leasing company | Telford | PW |
| 18 | Business Manager | International bank | Shrewsbury | DJ |
| 19 | Director | Chartered accountants | Telford | NP |
| 20 | Managing Director | National manufacturer | Wolverhampton | BD |

The respondents were all senior level executives, many being chief executives but together they represented a range of firms differentiated by type and size, from sole traders to multi-nationals. The purpose was to provide operational insight into the research area. This followed the personal interviewing process recommended by Alreck and Settle (1995). Each interviewee was encouraged to discuss their personal experiences of networking, positive and negative and asked to suggest what factors in their opinion were most likely to produce positive networking outcomes, such as measurable networking performance.

At the close of each face-to-face meeting, the respondent was asked to recommend the names of other senior executives who might be able to contribute to the pilot study. In practice, this worked even better than imagined, as the first respondent, the head of a major legal practice in Birmingham, picked up her phone and personally made three additional appointments with the heads of leading firms in the city. This was repeated in Coventry, Stoke and Wolverhampton, with similar results. The target of twenty

completed interviews was reached within five weeks. Appendix B to the thesis includes a sample of the completed interview scripts.

The resultant narrative from the interviews, whilst offering a rich picture of networking preferences would be difficult to reconcile without a recognised process for analysis. A textual analysis approach was selected for this study as it offers a synthesis of content analysis based on a simplified comparison of conversational linkages (Morse 1994). The semi-structured interview technique is popular in business research projects where the conversational nature of the interview is likely to generate informed comment but does not guarantee freedom from error (Jankowicz 1995; Mishler 1986).

The process of data collection inherent in interpretive ethnography places focus on the experience of the participants. Synthesising is achieved by the process of coding and content analysis, with pooling data from the transcriptions to facilitate the creation of the categories constructed from the participants observations (Morse 1994). A further advantage of adopting an method of textual analysis was its nature of a normal discussion, where people interact in a natural setting, in this case a business environment (Bryman and Bell 2004).

**4.3 Discussion**

The aim of undertaking a pilot study based on a qualitative research methodology by conducting twenty depth interviews with senior executives selected on the basis of their experience of business-to-business networking, was to understand what factors identified

from the literature were most likely to have a positive influence on networking performance. The qualitative survey was completed using a semi-structured interview developed from the conceptual framework described in Figure 3.3. This hybrid research strategy using qualitative data to inform and confirm the independent variables, was to refine the list of the variables and aid development of a conceptual model. The objective was to produce a more relevant and focused set of hypotheses and therefore a testable model of networking performance.

The decision to interview a sample of twenty senior executives recognised for their business-to-business networking expertise, proved easier than expected. By adopting the 'snowball sampling' technique as the method for creating a random sample of business leaders in the target region of the West Midlands, the potentially difficult task of identifying ideal respondents from the business community was made much easier than anticipated. By aiming high, the first interview with the head of a leading law firm in Birmingham and also the Chair of Birmingham Forward, produced a good result. This positive experience at the start of the pilot survey process was extremely encouraging and endorsed the decision to use the snowball sampling technique to identify suitable respondents. It was important to gain a representative sample of different firms across the whole of the region, based around the business centres of Birmingham, Coventry, Stoke, Wolverhampton and Telford, to achieve good geographic coverage. The results of the pilot study, content analysis and findings are analysed and discussed in the following chapter, together with the development of the hypotheses in Chapter 5.

### 4.4 Conceptual Model - development

The discussion on networking outcomes and in particular NP, draws attention to the overlap in the literature as to how many of the researched networking variables have been described and conceptualised. In order to address this, a conceptual model is proposed based on the findings from the qualitative phase of the study. The development of the conceptual model is based on the conceptual framework shown in Figure 3.3 with a refined set of independent variables identified in the qualitative phase.

The purpose of the qualitative study was to test the relevance of the networking concepts listed in Figure 3.3 by asking the respondents how important they thought each of the independent variables were in contributing to the desired networking outcome of measurable networking performance. The interview process based on the five question areas in the planned mail survey, sought greater operational definition of the respective networking terms and to gauge the respective importance of the concepts to the goal of enhanced networking performance as discussed in the following chapter.

**STAGE TWO:**

### 4.5 Quantitative Phase

The decision to adopt quantitative data analysis as the principal method to test a model of networking performance was made early in the research process for the following reasons:-

1. The requirement to produce research findings with a high degree of operational credibility aided the decision to adopt a quantitative research method.

2. The sample size of 3000 firms in the West Midlands also predicated the decision to adopt a quantitative method for analysing the data.
3. The need to meet the criteria for studying business networks and networking in the West Midlands region supported by the regional development agency (AWM).
4. The desire to contribute to the study of business networks and networking, extending the existing body of knowledge.

The size and scope of the cross-sectional research project necessitated studying a sufficiently large sample to achieve the desired geographic and demographic spread from which the data would be generated. For this reason, it was more practical for this study to use a quantitative method to analyse the data as recommended by (Bryman and Cramer 1999). This represents a departure from the more common practice among social scientists studying within the markets as networks domain, where the majority of the published work in the last decade has been case-study based, with less than ten percent of researchers adopting a quantitative methodology (Araujo and Easton 1996).

The literature suggests that when considering the research method, there is no right or wrong approach and that the decision should be based on which method, qualitative or quantitative data analysis, is most appropriate to the research project (Alreck and Settle 1995; Bryman and Cramer 1999). An additional factor in deciding to use a quantitative method for the main survey was the decision to produce empirical data in a numeric form suitable for statistical analysis and a testable model of networking performance. In addition, it was important in this research to be able to justify the survey's findings

operationally to the business community, which is arguably easier with statistical methodology using a recognisable method of quantitative data analysis.

The method selected for this quantitative research phase was based on the seven step process suggested by (Sekaran 1992) described in Figure 4.3. The process model has been widely adopted by researchers, being a practical approach to business research using proprietary statistical modelling software, such as SPSS v16 (Bryman and Cramer 1999). Establishing a systematic approach to the research process is considered important to ensure consistency of data across geographic and market sectors (Bryman and Bell 2004; Iacobucci and Churchill 2002).

The quantitative research methodology and process for the main survey, was selected based on the requirement for a large-scale cross-sectional, self-administered postal survey by firms within the defined geographical area of the West Midlands. The objective was to collate multivariate data for analysis from a large sample, to identify linkages between networking activities and NP.

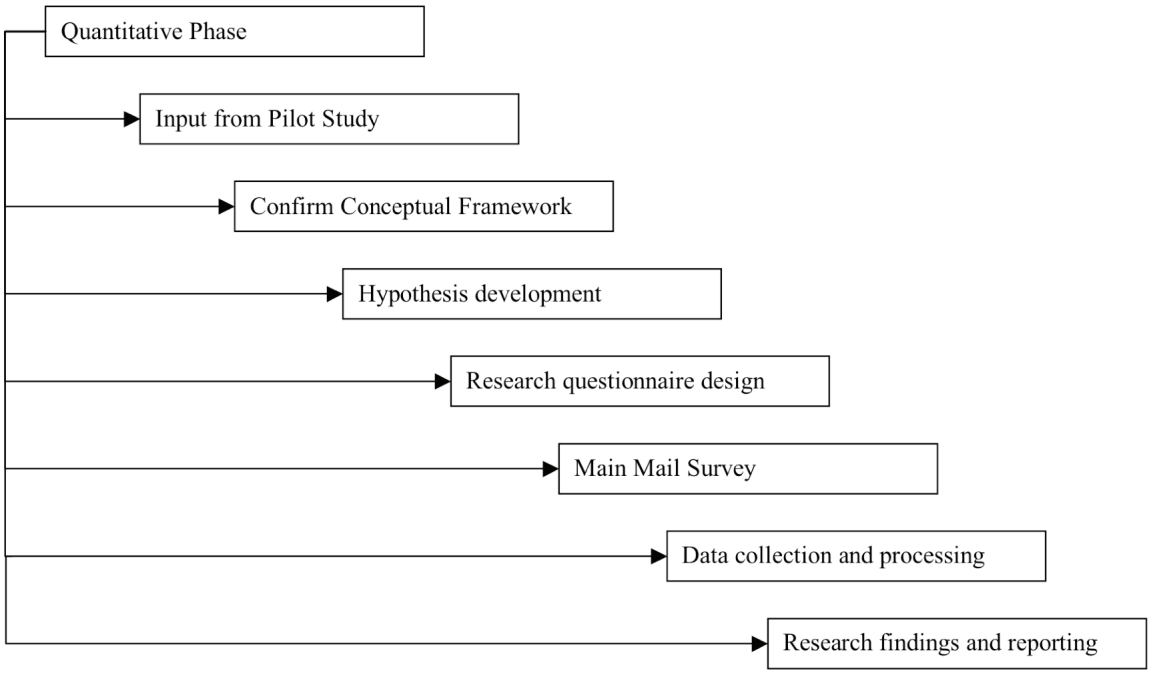
### 4.5.1 The Survey Process

The survey process is seen as being linear, consisting as a series of steps linked to one another suggested by Alreck and Settle (1995), where the decisions taken in the early stages of the project affect the later outcomes. There are many variants of survey process models in the literature (Jankowicz 1995; Lehmann 1979; Moriarty and Spekman 1984; Render and Stair 1990; Salant and Dillman 1994; Sekaran 1992; Tull and Hawkins 1976).

All follow a series of steps in a linear process and are similar in that they are sequential, with decisions taken early in the process affecting the later stages of the survey process. The survey process used in this research was based on a hybrid strategy described in Figure 4.2. Decisions taken during the planning stage of the research can have a major impact on the data collection and ultimately the results, hence specifying the data needs was of critical importance (Alreck and Settle 1995). In practice, a considerable amount of time and effort was applied to the planning stage of the survey, which ultimately had a positive influence on the quality of the data obtained and the subsequent research outcomes. The method selected for this quantitative phase was adapted from the seven step process in Sekaran (1992) as discussed above shown below in Figure 4.3.

**FIGURE 4.3**

**The Survey Process adapted from Sekaran (1992)**



### 4.6 Sample Characteristics

The geographic area selected for the survey was the West Midlands Region of the UK. The survey area corresponded to the postcode areas supported by the regional development agency (AWM). The area was considered ideal for the research project due to its economic size and diversity of business.

The West Midlands has a population of 5,366,700 (9% of the GB total), with 197,592 registered firms employing 2,511,300 staff (Sutherland 2008). It has a diverse economy based on both urban and rural enterprises. Manufacturing is still important to the region employing 285,500 people and generating 15% of the regions total GVA (Gross Value Added) but still a significant decline from the manufacturing sector's 33% recorded in 1989 (Medland 2011). In the same report, Medland stated that the West Midlands is found to have the highest proportion (14.5%) of working people with no qualifications in the UK. The West Midlands has been blighted for decades in what Worrall (2007) describes as 'low-skill equilibrium' but also found that surviving firms had been able to compensate for lack of internal knowledge and resources by using external partners to survive and change.

The economy of the region has indeed undergone significant change over the past twenty years. The biggest change being the growth of the service sector, where 49% of employees are now employed in a wide range of service businesses, including banking, insurance, financial services, property and business services, health care, social work and

education. The service sector provides over half of the region's GVA (£49.1bn) with the largest sector being property and business services (£17.8bn). The region's capital city is Birmingham with a population of approximately 1 million people (ONS 2008). The West Midlands central location in the UK means that it has good transport links to other parts of the country and excellent direct air connections from Birmingham Airport to 180 destinations in Europe, North America, Asia and the Middle East, carrying 9.5m passengers in 2008 (Medland 2011).

**FIGURE 4.4**

**Map of the West Midlands with Postcodes**

The West Midlands region shown in Figure 4.4 (source: The Post Office) is a land locked area of 13,000 square kilometres. It is often described as an area of contrasts. The region includes the densely populated conurbations of Birmingham and Coventry, surrounded by rural and often remote countryside stretching from the Welsh border to the Peak District in the North, across to its border with the East Midlands.

The sample frame was defined as senior employees or directors of firms within the region who were actively engaged in business networks and networking activities. The target sample was defined as being directors and executives of firms who were members of a business network, networking group, professional association or professional institution and therefore had a good knowledge of business networks and networking.

The sample frame was designed to identify respondents at firm/actor level, representing commercially active businesses in the West Midlands, as defined by the government funded regional development agency (Advantage West Midlands) in accordance with the sample frame guidelines suggested by (Alreck and Settle 1995). Recognising that it is difficult to obtain 'a perfect sample', considerable attention was paid to making the sample frame relevant to the target firms in the survey, to ensure compliance with the sample frame criteria, to obtain a range of responses representing the geographic, demographic and economic diversity in the region.

A high degree of reliability and validity in the sample is a prerequisite for a robust survey, free from bias and random error. The most common test for reliability is one of

'repeatability' where the distribution of data can be repeated between samples being surveyed in the same way. To be considered reliable, a sample must be free from random error. By conducting pre-survey interviews to check the relevance and accuracy of the research assumptions, greater confidence can be attributed to the final survey sample (Sekaran 1992). To be valid, the sample must be free from extraneous factors that can influence the results in a particular direction (Alreck and Settle 1995). Anything that introduces a degree of systematic bias to the sample may result in the results being less valid. Bias may inadvertently be introduced at any stage in the survey process and any factors that would change the probability of a qualifying respondent being ruled out should be avoided (Alreck and Settle 1995).

Another potential cause of bias in this type of survey is common method bias (CMB) or common method variance (CMV) as the effect is more commonly known (Doty and Glick 1998). Method bias can be a problem if it results in measurement error and therefore affects the validity of empirical results and associated conclusions. CMV is defined as a variance attributable to the measurement method rather than the individual constructs under consideration (Podsakoff et al. 2003). Offering a detailed explanation, Podsakoff (2003, p.879) state; "Based on theoretical considerations, in a hypothesized relationship between two constructs, it might be expected that measures of one might be correlated with the other, however, if they share common methods, those methods may exert a systematic effect on the observed correlation between the measures". However, given the different nature and likelihood of CMV in the literature, it is not clear whether applying a post-hoc statistical technique to further justify researched findings is

appropriate (Richardson et al. 2009). Although possible statistical tests for CMV vary in method and outcome, the consensus for researchers is to follow good measurement practice by implementing procedural remedies related to questionnaire and item design and to control for method bias by; (a) considering the source for predictor and criterion variables, (b) assessing whether predictor and criterion variables can measured in different contexts, (c) identify whether the source of the method bias can be identified, and (d) whether the method bias can be measured (Podsakoff et al. 2003).

Podsakoff et al. (2003) catalogued the advantages and disadvantages associated with methods for assessing and controlling for CMV/CMB. Among the various methods suggested (e.g. Harman's single factor test) those based on confirmatory factor analysis tend to be the most rigorous (Podsakoff et al. 2003). Following the recommendation Harman (1967) all the measures used in this research were collected using the same questionnaire. All the variables were entered into an un-rotated principal components analysis, as reported in Chapter 6. In this technique, if a single factor emerges from the analysis, or one factor amounts for most of the covariance in the scores, common method variance may be present. In this study, the results of the analysis reported later in Chapter 6 indicate nineteen items with eigenvalues greater than 1 and that no single factor amounted for more than 33% of the covariance. The results indicate that CMV, though probably present in the data to some degree, does not affect the results in this research.

### 4.6.1 Sample Size

Determining the sample size is critical to the degree of confidence required in the survey (Salant and Dillman 1994). There is a direct relationship between sample size and sample reliability (Alreck and Settle 1995). It is generally agreed that the larger the sample size, the greater the reliability of the survey, with the incidence of sampling error reduced (Bryman and Cramer 2005). It is obviously not practical to survey the entire population, in this case approximately 200,000 registered firms in the region of the West Midlands, so a suitable sample size had to be determined with a reasonable confidence level (Render and Stair 1990). The subsequent sample size which met the sample frame criteria was 3013, or approximately 1.5% of the 200,000 of firms in the region, which was therefore considered representative of the registered firms in the West Midlands.

Confidence level is defined as the probability that a value in the population is within a specific numeric range from the corresponding value calculated from the sample commensurate with the likely standard error (SE) and confidence interval (CI).

For this survey, a sample of 3013 firms located in the geographic region of the West Midlands, were identified from data supplied by different sources. Firms were selected from database listings and developed in collaboration with Advantage West Midlands. Organisations giving permission to use their membership data included the regional Chambers of Commerce, plus data obtained from a number of established business networking groups in the West Midlands, including Business Network International, NRG Networks, 4 Networking, Birmingham Forward, Telford Business Partnership,

FineST (Stoke on Trent), Business Referrals Xchange, Coventry First, Success (Lichfield) and Alliance 4 Black Country.

The sample framework required that the selected firms should have knowledge of business to business networks and to participate in networking activities. By using data supplied by the various networking groups across the region, it could be reasonably assured that respondents would qualify by meeting the sample frame criteria. By focusing attention on respondents who are seen to be the key 'actors' representing their firms in a network, it can be argued that these individuals, being influential, enhance the effectiveness the network and will therefore add knowledge to the study (Cross and Prusak 2002). The identification of key informants and the issue key informant competence (Phillips 1981), has been addressed in the survey design by ensuring informants were at director or senior executive level identified by job title, years of service, membership of networking organisations and by personal networking experience.

**4.7 Questionnaire Design**

An important part in the development of the survey process and the ultimate design of the questionnaire was the decision to conduct an informal qualitative study. This had a number of benefits, including the likely distribution of responses to the key variables, aggregation of knowledge on business to business networking by informed respondents and to promote the wider benefits of the survey amongst influential business leaders, which it was hoped would ultimately encourage wider participation in the survey. Snowball sampling worked to good effect in the qualitative study where respondents

were asked at the conclusion of each face to face interview whether they could recommend others who might welcome the opportunity to participate in the survey. The impact and influence of acknowledged business leaders recommending others to participate in the survey was extremely positive and encouraged the development of the main survey instrument.

Having decided for reasons of ease of completion and economy that a self administered postal survey would be the primary survey instrument, the questionnaire design followed the widely adopted guidelines recommended by (Alreck and Settle 1995). The survey had 38 questions, grouped in 7 sections. The individual sections followed a logical sequence of categorical questions designed to qualify the respondent, structured questions having a mix of numeric and verbal item scales. The questionnaire was designed to be completed by respondents in approximately twenty minutes. It was pre-printed as a 4 page document (A3 folded to A4), folded and mailed in a white C5 envelope, with a personalised covering letter and a pre-printed returns envelope addressed to the University of Wolverhampton, Management Research Centre, Appendix D refers.

The questionnaire was pre-tested by a small group of respondents who met the sample frame criteria and as experienced business 'networkers', they were able to offer a constructive critique of the questionnaire. The design process entailed nine major revisions to the survey instrument, with valuable input from my PhD supervisors and a final check conducted by the data bureau contracted to code the questions and enter the data into a bespoke software package ready for analysis in SPSS v16 by the author. The

final version of the survey questionnaire is included at Appendix C to this thesis, with a summary of the process to design the questionnaire sections presented below.

**Questionnaire Section 1 - Experience**

The first section sought to qualify the respondent by asking whether they were a member of a business networking group, networking club, professional association or professional institution. This was considered very important to the integrity of the survey and was a pre-qualification question demanding a positive response if respondents were to proceed. Respondents needed a level of networking knowledge and experience to meet the sample frame criteria, to understand and to be able answer the questions.

To assist completion of the question, a list of 14 networking organisations was provided as a prompt, with a supplementary question (2) requesting the numbers of years the respondent had been a member of each organisation. Space was provided to supply data on additional network clubs or organisations not shown in the list. Respondents were reminded at this stage to only complete the questionnaire if they appreciated the purpose and scope of the survey.

**Questionnaire Section 2 – Networking Behaviour**

The second section sought data on the key construct of networking behaviour. The first 3 questions request specific numeric answers to questions on how many networks, associations, institutions the respondent belonged to. The next question asked about whether the respondent held an executive position or directorship in any of the

organisations, as this was also an indicator informing the degree of embeddedness in each business network. The next question (5) asked how many networking events were attended per month, as this was an important indicator of networking experience and behaviour. The following question (6) had nine statements with a 7 item scale where respondents were asked to state by ticking the circle to what extent they disagreed or agreed with each statement, where 1 was Completely Disagree and 7 was Completely Agree on a linear numeric scale. The intermediate points were not labelled as following the recommendation of Alreck and Settle (1995) there is concern that the consensus as to the meaning of intermediate words such as 'very' or 'slightly' is less likely than the common understanding of the equal distance between the numbers which form a conceptual 'mapping' of the of the underlying evaluation. With numeric values there is no possible mistake about there being only a single dimension or continuum. The final question (7) in section 2 importantly asked 'what percentage of your company's turnover do you estimate is generated by networking?' The term 'networking' was qualified by being described as meaning any word of mouth marketing activity. This question tested very well in the pilot survey and added a level of confidence in the answers obtained, as any questions relating to financial performance are traditionally difficult areas to get meaningful data from.

**Questionnaire Section 3 – Strength of Relationship**

Section 3 sought data on the construct based on the strength of relationship. Following the pattern of questions established for the prior section, the first questions in the section dealt with issues surrounding which business network provided the best business

contacts, how many members were in this network and what percentage of the network members did the respondent trade with? The following question (11) listed nine statements with a 7 item scale, where respondents were again asked to state by ticking the circle to what extent they disagreed or agreed with each statement, where 1 was Completely Disagree and 7 was Completely Agree on a linear numeric scale. These were designed to test opinion on loyalty, trust, collaboration and business friendships, considered important indicators describing strength of relationship.

**Questionnaire Section 4 – Network Membership**

Section 4 sought data regarding the degree of embeddedness in the network. Despite being an established academic construct, the meaning of the word 'embeddedness' proved difficult for respondents to describe at the pilot study stage, which prompted the substitution of the phrase 'networking group membership' in the questionnaire, avoiding the word embeddedness, yet serving to elicit responses relative to the construct. The opening questions in this section dealt with networking group memberships, years of membership and information on the numbers of members. The final question (17) detailed nine statements, each with a 7 item scale, where respondents were asked to state by ticking the circle to what extent they disagreed or agreed with each statement, where 1 was Completely Disagree and 7 was Completely Agree on the linear numeric scale. This was designed to test the concept of embeddedness, commitment and involvement, with business outcomes and return on investment in networking group membership.

**Questionnaire Section 5 – Network Attractiveness**

Section 5 asked questions relating the construct based on network attractiveness. The concept of attractiveness in networks did not need explaining and was readily understood by respondents in the pilot study. The first two questions in this section asked about which network gave the respondents most pride and to qualify this with the number of members in that particular group. Question 20 sought to investigate opinions surrounding network attractiveness based on nine statements, once again each with a 7 item scale, where respondents were asked to state by ticking the circle to what extent they disagreed or agreed with each statement, where 1 was Completely Disagree and 7 was Completely Agree on the linear numeric scale. The next two questions asked whether the respondent had ever left a networking group because it ceased to be attractive and for the final question (22) in this section, where the respondent had left a networkin to select from a list why they considered the group to no longer be attractive.

**Questionnaire Section 6 – Business and Professional Services**

Section 6 was designed to specifically address questions suggested by the regional development agency Advantage West Midlands, requesting specific information and recommendations on the future development of business and professional services networks in the West Midlands. As this section was not part of the conceptual framework designed to assess networking performance, it will not be included as part of this thesis covered here but is part of a separate report, referenced at Broad (2009) and included in Appendix G.

**Questionnaire Section 7 – About you and your organisation**

The final Section 7 sought information specific to the respondent and their organisation. Question (30) asked about the respondent's primary business for sector segmentation analysis. The next two questions requested information on the business postcode for geographic data and how many sites the respondent's firm has in the West Midlands and how many employees the firm employed in the region of the West Midlands. Question (30) asked the respondent to indicate by ticking a circle what their sales turnover was in bands from up to 1.0m to over £25m. The final questions asked for information on the respondent's job title, gender, age and finally question (38) how many years they had been with their present employer.

**4.8 Data Collection**

The principal method of data collection used in this study was a large scale, self-administered mail survey. The principle survey instrument was highly structured pre-tested questionnaire, printed as a four page document, folded to a finished flat A4 size. This was posted together with a covering letter of introduction and a pre-addressed envelope as described above to the addresses in the sample frame. The questionnaire in the first mailing was printed on light yellow paper, with the questionnaire in the follow-up mailing was printed on light pink paper to differentiate it from the initial mailing.

Respondents were given the option to complete the survey form as an on-line version prepared in a proprietary web-based survey software package (Survey Monkey http://www.surveymk.com/networkpr). In practice the lack of email addresses in the

various networking groups membership data made this difficult to implement, with only 11 respondents completing the on-line version, the majority preferring to complete to hard copy of the questionnaire. This will be discussed later in Chapter 7.

The survey questionnaire was mailed in stages to the 3013 named contacts obtained by using a variety of supplied data, to produce a list of respondents and networks who might have otherwise been difficult to access (Moriarty and Spekman 1984). The sample was composed of lists of known business networking participants, each with an equal probability of inclusion to validate the sample (Bryman and Cramer 1999; Creswell 2003; Greenfield 2002).

The postal survey was administered in a two stage process as described above, to ensure an adequate response rate (Salant and Dillman 1994). The only incentive to complete the survey was a request to participate in the study, with the option of requesting an emailed summary of the findings. Assurances were given in respect of confidentiality and Data Protection Act considerations, in accordance with the published Code of Conduct of The Market Research Society. The initial survey questionnaire mailing with explanatory covering letter printed on University of Wolverhampton management research centre letterhead plus return envelope, was followed with a second partial mailing three weeks later to improve the overall response rate. By the closing date in mid-July, a total of 282 responses (9.3%) had been received, which in statistical terms gave a confidence level of +/- 5% against the total sample of 3013.

## 4.9 Data Evaluation

After initial data entry and verification, 237 usable completed responses were identified, a total net response rate of 7.8%.

Tests of non-response bias indicate that there were no significant differences between early and late respondents in terms of variables relating the individual (position, age, gender, networking experience) or to the respondent's firm relating to (sector, geographic location, size or sales turnover).

Tests of key-informant competence. On average the respondents had been a member of a business network for 6 years and on average have been a member for 3 business networks, which suggests they are experienced and knowledgeable about the issues surrounding business networking. 73% of respondents were recorded as being at director, managing director, chief executive officer or chairman, indicating a high level of seniority amongst the respondents. A further 19% were managers in their respective firms. 68% of respondents were aged 40 or above but 32% were aged under 40, reflecting that business networking is not confined to older participants. The profile of the respondents is analysed in Chapter 6.

## 4.10 Conclusion

Building upon the theoretical background presented in Chapters 2 and 3, this chapter discussed the development of a two-stage research strategy to examine the constructs shown in the conceptual framework in Figure 4.3. Concern was expressed at the start of this chapter about the number of similar networking concepts, where definitions lacked

clarity or indeed overlapped each other, for example networking atmosphere and networking environment. To overcome this difficulty, it was proposed to use a pilot study to help gain a better understanding of how the respective networking terms were perceived by the business community, with the objective of refining the conceptual model.

The objective of this research is to develop and test a model of networking performance but in order to ensure that the networking terminology in the main survey was consistent with the operational understanding of the factors most likely to influence the positive networking outcomes being researched. The testing of the conceptual model and hypotheses developed in this chapter with the following research objective:

***To develop and test a model of networking performance, identifying the factors linking network theory and positive business outcomes leading to an increase in sales turnover.***

This chapter outlined the overall research strategy, adopting a positivist view and methodology based on a hybrid research strategy, where a qualitative pilot survey was used to inform the development of the independent networking variables shown in Figure 4.3. From this a quantitative survey approach was selected, which lead to the design and development of the main survey instrument. Considerations in the design included the sample characteristics, geographic location and expertise in business-to-business networking in attaining a representative and suitable sample of the business community in the West Midlands. It was important for the integrity of the research that the

subsequent findings are valid and reliable. Reliability and validity checks were put in place with key informant competence as described within this chapter. Further validity and reliability checks are reported in following chapter. The findings form the qualitative phase will be discussed in Chapter 5. This was seen as an important step in refining the conceptual model using a qualitative method in the development of the hypotheses.

Finally, the results from the quantitative research, data analysis techniques, exploratory factor analysis and a correlation matrix were used to extract the multi item measures and OLS regression used to produce the results in the Chapter 6.

# Chapter 5

# Qualitative study findings and Hypotheses development

**Chapter Content**



## 5.0 Introduction

This chapter presents the results from the qualitative phase of this research. Twenty depth interviews were undertaken with experienced members of business networks in the West Midlands region, using a semi-structured technique. A method based on textual analysis has adopted to analyse the data and the resultant findings were used to refine the variables identified from the literature. A conceptual model was developed using the refined list of variables and a parsimonious model was developed, together with a statement of hypotheses. The overall objective of the research is to develop and test a model of NP, the results of which will be presented in the following Chapter 6.

The method used to select and refine the independent variables using qualitative research in the pilot study was based on a survey involving the twenty depth interviews discussed in the previous chapter. The variables were identified from the literature as being indicators of networking performance in the conceptual framework, described earlier in Figure 3.3. The interview process was designed to gain a better operational understanding of what factors contribute to the desired outcome of measuring networking performance from the respondents' operational perspective. The results from the qualitative study were transcribed and are available at Annex B to this thesis. The findings were used to confirm the constructs forming the independent variables from the conceptual framework, to produce a refined conceptual model. The independent variables are presented and the conceptual model is confirmed, together with a statement of the hypotheses.

**5.1 Qualitative Phase - pilot study findings**

The qualitative study was based on exploratory qualitative research using 20 depth interviews. The objective was to gain a better understanding of the factors influencing networking performance and to refine the description of the variables contributing to NP from an operational perspective. The qualitative study was designed to facilitate and refine the conceptual model, develop the hypotheses and to assist in the development of the main survey questionnaire. The sample of senior managers and directors based in the West Midlands region was selected using a snowball sampling technique as described in Chapter 4. The survey method was a pilot study using a semi structured qualitative technique, with individual pre-arranged face-to-face interviews.

### 5.1.1 Qualitative study responses

The responses were generally positive towards achieving a better understanding as to what contributed to achieving better networking outcomes for the members of the respective business network who took part in the qualitative study. As anticipated, the responses were also consistent with the experience and professional standing of the respondents, with all respondents being acknowledged as experienced networkers, able to demonstrate a clear appreciation of networking techniques, networking competence and to discuss how networking actions related to NP.

Without exception, the respondents were confident in their understanding of the role that networking had in their business lives. They were members of several business networks/ groups/organisations and were able to make direct comparisons between the role and benefits of different networking groups. Active involvement in a network(s) ranged between two and six years, although most had additional networking experience in professional institutes and associations, which pre-dated the recent growth in organised business networks. networking club

The respondents included a high number of business professionals, lawyers, chartered surveyors and chartered accountants representing the business and professional services sector in the West Midlands. In addition to networking, these professionals were active participants in collaborative projects and recognised the advantage of meeting each other socially to foster professional relationships. This was less common amongst the

manufacturers, marketing and business services respondents, for whom networking was primarily a business activity. The respondents were all senior level executives, many being chief executives but together they represented a range of firms differentiated by type and size, from sole traders to multi-nationals. Having been recommended by their peers as experienced networkers, with networking being an important part of their business activity, they were able to provide a useful insight into the nature and outcomes of business networking as part of the pilot study.

### 5.1.5 Pilot study findings

A full text transcript and analysis for a sample of the depth interviews based on the interview protocol and coding system, is available in Appendix B. The respondents had different opinions as to what contributed to 'performance' in networks and were keen to elaborate on their networking experiences as they related to each of the question areas described in the previous chapter.

A summary of the findings linked to each of the five networking concepts is presented in Table 5.3, where the respondents comments are inserted against their initials for reference purposes and coded as positive (+), neutral (+/-) or negative (-) as appropriate.

**TABLE 5.3**

**Qualitative Study Findings**

| Network Concept | Respondents' Comments | Ref | Code |
|---|---|---|---|
| Networking Performance | "It depends what you mean by networking performance, if you mean the number of business referrals or the volume of new business generated then clearly some networking groups are more suitable than others". | AM | +/- NP |
| | "I dislike the pressure exerted by some network groups to generate enquiries for members, for example BNI with its evangelistic pestering for referrals. I prefer the more social aspects of networking and have made many business friends through TBP (Telford Business Partnership)." | GD | -NP |
| | "I hadn't really thought about the return on our investment in networking but being part of a group like Birmingham Forward has been very beneficial for our business, although I would find it hard to quantify the result." | BB | +NP |
| | "Over half our business is generated by word of mouth referrals and I encourage as many of my staff to get involved in networking as possible." | PW | +NP |
| Network Atmosphere | "I do not really understand what is meant by 'network atmosphere' there are so many different phrases that actually mean exactly the same thing but I do accept there are networks with a more positive atmosphere, if that's what you mean?" | CC | +/- NA |
| | "First impressions are so important. Visitors to a networking meeting make up their minds very quickly whether it is a group they wish to be part of. I guess it comes down to making sure a group looks attractive at first sight" | ST | + NA |

| Network Concept | Respondents' Comments | Ref | Code |
|---|---|---|---|
| | "I can assess the quality of a network by the profile of its members. I would not join any group where I didn't recognise anyone, a successful networking group must have a high profile." | TR | +NF<br>+NA |
| | "A lively network is always going to be more attractive – you should be able to feel the positive energy in the room." | BD | +NA |
| | "We have worked hard at Coventry First to creative a separate identity for ourselves to raise our profile through having our annual awards and are clearly seen to be different and better that Birmingham Forward" | DP | +ND |
| | "I joined a BNI group in Birmingham but found it very difficult to get business with any of the members as we are based in Wolverhampton" | BD | -NA |
| | "I did my initial research of potential networking groups on the internet and then made a short list of those worth a closer look" | NP | +NA |
| Network Environment | "I have encouraged all my staff to get involved with the different networking groups in Birmingham and personally belong to five different groups, not meeting every week as some just meet monthly but I guess I attend 3 or 4 events each week" | DB | +NB<br>NI |
| | "I've never really considered my approach to networking other than I have made a deliberate objective to attend as many meeting a month as I can fit in, so that probably means at least one meeting a week" | AM | +NB<br>+NI |
| | "Birmingham Fwd has actually weakened membership of other groups locally because they deliver what today's professionals require. This is to the detriment of some old established associations." | BB | +NA |

| Network Concept | Respondents' Comments | Ref | Code |
|---|---|---|---|
| | "Often they are oversubscribed by members of the same profession. Lawyers, accountants & surveyors, which may deter others from joining." | SA | +/-NA |
| | "Sometimes it's the same old faces, which rather distracts from the purpose of meeting new contacts" | GD | -NA<br>-NC |
| | "I really believe that Birmingham Forward has set the standard for others to follow. I tell people you don't need to go to London to meet the big four management consultants, they are here in Birmingham. Just look at our membership (over 250), all the top companies are there. This is a very powerful group." | DB | +NA<br>+NI<br>+NP<br>+NC |
| | "I think (CC) has done a fantastic job in galvanising support for Coventry First, it is her leadership and example that has attracted firms like ours to become involved, this really is a success story for Coventry" | DP | +NA<br>+NP |
| | I've been doing this for a long time (6 years) and can spot the timewasters a mile off. The problem is that there are too many competing groups and we are all trying to increase membership which is affecting the quality. Perhaps it's time to give up." | PW | -NA |
| | "I am Chair of Telford Business Club which was the first networking club in the town and is still going strong. We meet in the evenings which gives us a distinct advantage over all the breakfast clubs." | NF | +NA |
| | "The problem for business in Lichfield and Tamworth is that we have no geographical centre, unlike say Birmingham or Coventry, where there is a natural city centre focus" | SA | +/-NA<br>-NP |
| | "People have to drive quite long distances to our meetings (Lichfield) whereas if you work in Birmingham you can probably walk to a networking meeting" | SA | -NA<br>+NM |
| | "Networking is a great way to meet new contacts, both suppliers and customers" | BD | +NB |

| Network Concept | Respondents' Comments | Ref | Code |
|---|---|---|---|
| Networking Capability | "I recognise that networking is a long term investment and I really have only seriously been networking the business for 3 years I actually made a conscious decision 3 or 4 years ago that I was going to do it and it's a slow burner" | AM | +NE |
| | "This is not a rainy day activity, networking needs to be a work based activity, something to be invested in for the best long term results. And, when it is done well it is very enjoyable too." | DB | +NE<br>+NP |
| | "I was elected as the Chair of Coventry First to provide leadership and direction through the board, which even though I say so myself, we have been very successful. We have over 80 members and are very active in recruiting new members through our marketing and website which gives a geographic focus to Coventry" | CC | +NE |
| | "I have only been a member of Success for two years but have already seen the benefits of collaborating with others, I mean, very few people know what we actually do and are really surprised when I tell them the sort of national and international clients we have." | SA | +NE<br>+NP |
| | "If the chief executive actively supports networking membership it will greatly help to encourage others to become involved but many senior people think these groups are below them and won't get involved or attend the meetings" | TR | +/-NE |
| | "Without doubt, the more that you put in to a networking group, the more you will get out in terms of benefits. As they say 'you have to be in it to win it' and that is so true – you really have to take a long term view when developing networks" | RB | +NE<br>+NO<br>+NP |
| | "When I set up my business I was encouraged by former colleagues to get involved with 'networking' and I have to say it was the best advice I was given." | AM | +NE<br>+NP |
| | "The bank is very keen to get involved with local business networks as past experience shows that we | DJ | +NO<br>+NB |

| Network Concept | Respondents' Comments | Ref | Code |
|---|---|---|---|
| | have had very positive results from meeting business contacts in this way." | | |
| | "It is important to meet people outside your immediate work group and Birmingham Forward gives me the opportunity to meet a wide range of professionals on a regular basis – not every week, lets say twice a month" | MH | +NB<br>+NI |
| Network Characteristics | "I welcome the chance to get out and meet other professionals, as I find it important to keep up to date with what others are doing." | AM | +NR |
| | "There are members of the Chamber that I would definitely not want to do business with. Being a member does not mean you have to like them or do business with them" | ST | -NR<br>-NT |
| | "I think in the end a lot of networking is about developing friendships around business relationships and I often find some of the best friends you make you make through business anyway" | AM | +NR<br>+NO |
| | "It is essential to network to build new contacts, both suppliers and customers. Finest gives me the opportunity to do this locally, although I do network across the region." | BB | +NR<br>+NC<br>+NP |
| | "The problem for us is that most of these people are never going to buy a truck from us and it is difficult to persuade my salesman that they should network with these people, it can be counterproductive. Perhaps it's okay at a senior management level but not for everyone." | BF | +/-NR |
| | "The Chamber was set up in the first place as a point of contact for businesses in Shropshire, to provide advice and support and then more recently to encourage networking between members. As you know we now have networking groups throughout the county and even speed-networking events if you are interested?" | NG | +NR<br>+NI<br>+NO |

| Network Concept | Respondents' Comments | Ref | Code |
|---|---|---|---|
| | "I don't have any particular allegiance to one networking group, I see the three groups that I belong to as being very different, with different members and different objectives+ | AM | -NG<br>+NR |
| | "I'm naturally very pro Birmingham Forward but I wouldn't say that I have a stronger allegiance to (BFwd) than say the Chamber of Commerce, or for that matter to the respective members" | RB | -NG |
| | Building network relationships can reinforce trust between members but I never hear anyone talking about trust in terms of being a characteristic of successful networking | DB | +NR<br>-NT |
| Other comments | "I do think it would be a good idea to have open access to all the BPS affiliated networking groups across the region – we do tend to be isolated up in Stoke." | BB | -NE |
| | "The real problem is AWM – they insist in being involved in every aspect of our development and quite frankly our members are fed up with the lot of them" | DB | -NA |
| | "I do get irritated by the constant pressure from groups like BNI to join them – they are worse than double glazing salesmen" | DP | -NA |
| | 'I will always go to a networking meeting if I believe it is in my interests, it's as much about social contact as it is business between fellow professionals" | RE | +/-NB |
| | "I think this is the first time that any serious research into networking group membership has been done in the West Midlands so I look forward to seeing the results." | DB | |
| | "I will certainly encourage our members to participate in the survey, it is vitally important to understand what motivates people to get the most benefit from their networking membership" | RB | |

The responses were coded to ease the process of attributing comments to the answers from the respondents, as described earlier in Chapter 4. These are highlighted in Table 5.3 above, following the symbols used in the coding schedule in Table 5.1. The overall findings are summarised in Table 5.4.

Each of the network concepts are coded e.g. (Networking Performance = NP) and rated by the respondents as (+) Positive, (+/-) Neutral, or (-) Negative, with the ratings based on the recorded comments from each of the respondents.

**TABLE 5.4**

**Summary of findings from the Qualitative Study**

| Network Concept | Code | Positive | Neutral | Negative |
|---|---|---|---|---|
| Networking Performance | NP | +17 | 2 | -1 |
| Network Atmosphere | | | | |
| - network attractiveness | NA | +18 | 2 | 0 |
| - network identity | ND | +10 | 10 | 0 |
| - network profile | NF | + 8 | 12 | 0 |
| Network Environment | | | | |
| - networking behaviour | NB | +20 | 0 | 0 |
| - networking intensity | NI | +16 | 4 | 0 |
| - network activation | NG | +15 | 5 | 0 |
| - network contacts | NC | +20 | 0 | 0 |
| Network Capability | | | | |
| - degree of embeddedness | DE | +18 | 2 | 0 |

| Network Concept | Code | Positive | Neutral | Negative |
|---|---|---|---|---|
| - network orientation | NO | +17 | 3 | 0 |
| - network membership | NM | +20 | 0 | 0 |
| - networking influence | NU | +15 | 5 | 0 |
| Network Characteristics | | | | |
| - strength of relationship | NR | +20 | 0 | 0 |
| - strong vs weak ties | SW | +5 | 10 | -5 |
| - trust | NT | 0 | 18 | -2 |
| - allegiance | NL | +10 | 0 | -2 |
| - competence | NE | +17 | 3 | 0 |

### 5.1.3 Pilot study analysis

The analysis that follows seeks to refine the understanding of how business professionals approach business networking from an operational rather than purely academic perspective. The aim is to combine the finding from the pilot study with those from the literature to produce a parsimonious model of NP. The interview transcripts have been divided into five conceptual areas listed above in Table 5.4. Textual excerpts from the interviews are inserted to illustrate the understanding of each construct as part of the process to synthesise the respondents comments, seen as a pragmatic approach to understanding the meaning of the responses.

The respondent's accounts were communicated in a business environment, either their own office or a formal meeting or boardroom setting. Respondents therefore switched between first and third party comments, dependent on whether they were referring to their individual or the firm's networking experience. The findings from the pilot study

show that in this case, the opinions expressed by the individual actor in the network were also those shared by the focal firm, as the respondents were commenting on networking its representative. This is important, as the respondents did not see a boundary between themselves and their firms. Therefore if a boundary does exist, it surrounds the actor and the focal firm, suggesting a consistent view of networking from the actor/focal firm perspective.

The main findings from the pilot study are analysed as follows:

***1. Networking Performance***

The concept of NP was not immediately understood by all the respondents. There was a better understanding of NP once this was qualified with the objective of the study, which was to investigate the outcomes and measurable benefits of networking activity and inter-firm collaboration. Half the respondents said they had never thought of 'networking performance' as a measure of networking success. However, when they considered the time and personal cost of business networking, the majority (17) agreed that networking performance was an important consideration (+NP). The following excerpt is typical of the comments recorded:

> "It depends what you mean by networking performance, if you mean the number of business referrals or the volume of new business generated then clearly some networking groups are more suitable than others".

Only one respondent from the group of twenty said that networking performance was not an important consideration (-NP) as they enjoyed networking for the more social aspects of networking:

> "I dislike the pressure exerted by some network groups to generate enquiries for members, for example BNI with its evangelistic pestering for referrals. I prefer the more social aspects of networking and have made many business friends through TBP (Telford Business Partnership)."

When the discussion narrowed down to a choice of social benefits, knowledge benefits, political benefits and economic benefits, the majority of the pilot group chose economic benefits as being the most significant measure of networking performance (+NP) with many referring to the financial return on their personal time invested in business networking activities as in the following example:

> "Over half our business is generated by word of mouth referrals and I encourage as many of my staff to get involved in networking as possible."

Two respondents were concerned about measuring networking performance based solely on economic outcomes and suggested a 'balanced score-card' approach where all the outcomes may be aggregated to produce an overall measure of networking performance. This was an interesting comment as it relates back to the literature on defining the outcomes of networking and the difficulties associated with measuring the perceived economic benefit of network outcomes (Medlin 2003; Ritter 2002). Networking outcomes were regarded as positive. These included new business leads, professional referrals, new contacts, knowledge gaining, knowledge sharing, socialising, recruiting staff (1 respondent), increasing personal standing in the business community, business collaboration, CV enhancing (1 respondent) and good public relations.

***2. Network Atmosphere***

The concept of network atmosphere has been recognised as being problematic in the literature because of the interconnectedness of the terms surrounding phrases like

network environment and network characteristics (Holmlund and Törnroos 1997). This was endorsed by the respondents who were unclear as to what was meant by 'network atmosphere and how this differed from 'networking environment'. However, they were more forthcoming when discussing the relative merits of networks in terms of their 'attractiveness'.

> "A lively network is always going to be more attractive – you should be able to feel the positive energy in the room."

This respondent makes the connection between energy and attractiveness, which suggests that what constitutes 'attractiveness' in networks does vary and is dependent on the individual perceptions. In the following example, the respondent suggests that an assessment of how attractive a network might be made very quickly, or at 'first sight'.

> "First impressions are so important. Visitors to a networking meeting make up their minds very quickly whether it is a group they wish to be part of. I guess it comes down to making sure a group looks attractive at first sight"

Does this mean the profile of the network is important? The following respondent suggests it might be but the profile of the network is closely associated to the by profile of its members:

> "I can assess the quality of a network by the profile of its members. I would not join any group where I didn't recognise anyone, a successful networking group must have a high profile."

In the following example the respondent makes the connection between network identity and network profile in their desire to promote their own network group:

> "We have worked hard at Coventry First to creative a separate identity for ourselves to raise our profile through having our annual awards and are clearly seen to be different and better that Birmingham Forward"

Network attractiveness was recognised by (18) of the respondents as being a positive attribute (+NA) and a necessary pre-requisite for 'attracting' new members to the networking group. Networking attractiveness covered a wide range of attributes from physical location to the perceived business calibre and apparent social standing of the networking group members. Network attractiveness was aligned positively to network identity (+NI) and to network profile (+NF), particularly evident in the larger and more established groups such as Birmingham Forward. Although some rivalry between the networking groups was evident, with smaller groups like Success in Lichfield perceiving network size to be negative (-NA) in relation to its city centre competitors, which they perceived to have an advantage of networking group size, with a greater proportion of large firms as members.

Respondents were able to clearly express what in their opinion made a network attractive and used a similar language and tone in assessing the merits of networking profile and identity in creating what they thought constituted an attractive network. Another factor is the role the members have in creating an attractive network. The literature also links network embeddedness to network attractiveness, with firms appreciating the relative attractiveness of embedded networks, being able to describe the network atmosphere and perceive distinct differences in relative performance (Ritter et al. 2004).

***3.Networking Environment***

Networking environment was not easily differentiated from network atmosphere by the respondents, with network environment being seen as representing the physical attributes

of the network meeting space, whereas network atmosphere was attributed to the social setting and ambience of the networking meeting.

Networking behaviour was recognised by the respondents as contributing to the network environment. The difficulty was that they tended to see network behaviour as positive and negative (+/-NB) depending whether they were talking about their network behaviour which was always positive, compared to the behaviour patterns of the networking group which could be sometimes seen as negative. In the following example it appears that the length of membership of a networking group might have a negative impact

> "I've been doing this for a long time (6 years) and can spot the timewasters a mile off. The problem is that there are too many competing groups and we are all trying to increase membership which is affecting the quality. Perhaps it's time to give up."

However, all (20) respondents saw a positive relationship between networking behaviour and making business contacts:

> "Networking is a great way to meet new contacts, both suppliers and customers"

> "I've never really considered my approach to networking other than I have made a deliberate objective to attend as many meeting a month as I can fit in, so that probably means at least one meeting a week"

Without exception, all twenty respondents made a positive connection between networking behaviour and networking outcomes and networking performance. There was also support for the notion that networking is interactive and reciprocal, rather than just an individual activity, supported by Håkansson (1982). Networking behaviour includes the respondents' attitude and approach to networking, which with the pilot study respondents was nearly always positive. The respondents did acknowledge that despite

their experience of networking, many were still learning how to achieve the best possible networking outcomes.

***4. Network Capability***

Network capability encompasses network resources, competence, organisation, networking intensity and the degree to which a network member (actor) is embedded in the network organisation. Discussion around networking resources tended towards tangible resources such as a networking group website, which all twenty considered a pre-requisite for any networking group, but covered areas like marketing materials, LCD projectors and physical support for holding a successful networking meeting.

The concept surrounding the degree to which a network member (actor) is embedded within the network was not immediately recognised by the respondents, possibly due to the use of the description including the word 'embeddedness'. This was resolved by using the term networking group membership and discussing the length of time respondents had been a member of their respective networking groups. Respondents made a direct connection between length of membership of a network group (degree of embeddedness) and network capability, suggesting that time was an important factor is assessing networking capability:

> "Without doubt, the more that you put in to a networking group, the more you will get out in terms of benefits. As they say 'you have to be in it to win it' and that is so true – you really have to take a long term view when developing networks"

Equally important is the issue of 'enjoyment' in networking activities, especially when it 'is done well' as most networking groups meet outside normal working hours, so it is essentially something that 'you do in your own time':

> "This is not a rainy day activity, networking needs to be a work based activity, something to be invested in for the best long term results. And, when it is done well it is very enjoyable too."

The size of the networking organisation was not seen as being critical. There were arguments presented both for and against being a member of a larger networking group (+/-NO). Those who were members of networking groups such as the Telford Business Partnership with over 100 members favoured having a large group, whilst smaller groups like Success in Lichfield with 50 members were in favour of the greater opportunities for the stronger networking relationships that resulted from being part of a smaller group. The conclusion is that network size may not be an important factor in the performance of the network but that it was the activity of 'networking ' that was important, a view unanimously supported by the respondents, using a range of positive statements as per the following example:

> "When I set up my business I was encouraged by former colleagues to get involved with 'networking' and I have to say it was the best advice I was given."

There was a positive association between years in the group and networking outcomes (+DE) and strong networking relationships, numbers of business contacts, the number of business referrals and the amount of reciprocal business done. Respondents also said that by taking a leadership role in their networking group they had become more influential in its future direction (+DE). It was acknowledged that not everyone was keen to be at the centre of the network, being equally content to be on the periphery of the network. There

was evidence that even with a relatively short length of membership (2 years) of a network, was still able to produce positive support:

> "I have only been a member of Success for two years but have already seen the benefits of collaborating with others, I mean, very few people know what we actually do and are really surprised when I tell them the sort of national and international clients we have."

Respondents commented on the transitory nature of a network, where success or failure largely depended on the membership and what was referred to as the chemistry in the group. There were three respondents who commented that some members had sought executive positions and the failed to provide direction and leadership for the group (-DE). The case of Business Network International was cited where the leadership team is only elected for a fixed period of six months, which was seen as positive (+DE).

***5. Network Characteristics***

Network characteristics involve aspects of networking relationships, trust and allegiance. Network relationships proved a popular discussion point with respondents keen to demonstrate through their own experience that networking lead to positive business relationships (+NR) but equally that this took time. The concept of strong versus weak ties was more difficult to communicate, although when prompted, respondents did admit to naturally gravitating to their established networking contacts, and that they had to work harder at developing new contacts. The following three examples illustrate the range of opinion on meeting new contacts through a networking group:

> "I welcome the chance to get out and meet other professionals, as I find it important to keep up to date with what others are doing."

> "Sometimes it's the same old faces, which rather distracts from the purpose of meeting new contacts"

> "There are members of the Chamber that I would definitely not want to do business with. Being a member does not mean you have to like them or do business with them"

The pilot study respondents felt less comfortable discussing networking trust. One went as far as to say 'trust' was not a networking characteristic they recognised, although it was implied in being a member of the networking group (+NT). Others said there were members of the group that they would not do business with and when prompted did say this was partly due to a lack of trust (-NT). It seems obvious that there has to be a degree of trust in any networking relationship but perhaps the word 'trust' is not so common in the popular business lexicon. The excerpt below illustrates this point:

> "Building network relationships can reinforce trust between members but I never hear anyone talking about trust in terms of being a characteristic of successful networking"

Likewise, network allegiance produced a range of neutral comments, possibly because most respondents were members of several networks.

> "I don't have any particular allegiance to one networking group, I see the three groups that I belong to as being very different, with different members and different objectives"

The exceptions were the chief executives of the Chambers of Commerce and Birmingham Forward who, perhaps understandably, demonstrated strong allegiance to their respective organisations.

> "I'm naturally very pro Birmingham Forward but I wouldn't say that I have a stronger allegiance to (Birmingham Forward) than say the Chamber of Commerce, or for that matter to the respective members"

It is worth repeating that the respondents in this pilot study were all acknowledged as being experienced business networkers and all were in senior positions in their respective organisations. It is therefore perhaps understandable that these respondents to a partisan approach to their own networks, as all (20) were active members of their networking groups and were 'vocal' in their enthusiasm for networking and defensive of their particular networks. This did not seem to affect their 'objectivity' in describing what made networks successful and therefore capable of delivering the required networking outcomes.

### 5.1.4 Pilot Study Summary

The comments from the respondents in the pilot study were consistent with my own experience of being a member of several similar networking groups, where those who might be described as the more 'embedded' in a network were likely to be the most vociferous champions of 'networking'. However, despite being such enthusiasts for 'networking' only half the sample (10) had previously considered how they measure the output from their networking activities. Once prompted, respondents were able to distinguish what, in their opinion, equated to a return on investment in networking and to discuss how this might be measured. The most common measure being the number of referrals or sales enquiries generated through networking. The majority of the sample (17) were able to estimate the value of business generated from networking activities, which varied from 20<50% of sales turnover. This gave a high level of confidence that the measure of NP based on an estimate of sales turnover attributed to networking was viable as the dependent variable in a model of NP.

One of the persistent problems in networks and networking studies is an agreed definition or common understanding of frequently used networking terms (Easton and Araujo 1994). It was therefore not surprising to find some confusion in the responses regarding terms like networking 'atmosphere' and 'environment', which resulted in some confusion in the minds of the respondents. This would need clarification in the main survey questionnaire, to avoid misunderstanding and inaccurate responses. As anticipated, the networking term 'degree of embeddedness' meant little to the sample and was substituted in discussions with 'length of network membership', 'involvement in the network' and 'attendance at network meetings', which facilitated a better understanding of what 'degree of embeddedness' meant. This approach was later adopted in the survey questionnaire.

It was a surprise to discover the strength of feeling (allegiance) some of the respondents exhibited towards their own business networks and how competitive some were in seeking to claim that their 'network' was the best. This was possibly more an indication of the competitive nature of networks rather than a parochial view of networking. As far as I am aware there has been little, if any, research into the competitive nature of networks and it may be an interesting concept for investigation in the future. The findings from the pilot study were used to produce a refined conceptual mode, described below.

**5.2 Conceptual Model Refinement**

The findings from the pilot study were used to refine the original list of 19 independent variables described in Figure 3.3, adopting the networking benefits and operational terms used by the respondents in the qualitative study, summarised in Table 5.3, with the results in Table 5.4. Using the coding schedule at Annex E and as described above, these were combined with the original construct groupings to confirm a list of four independent variable headings, corresponding to the Conceptual Framework in Figure 3.3

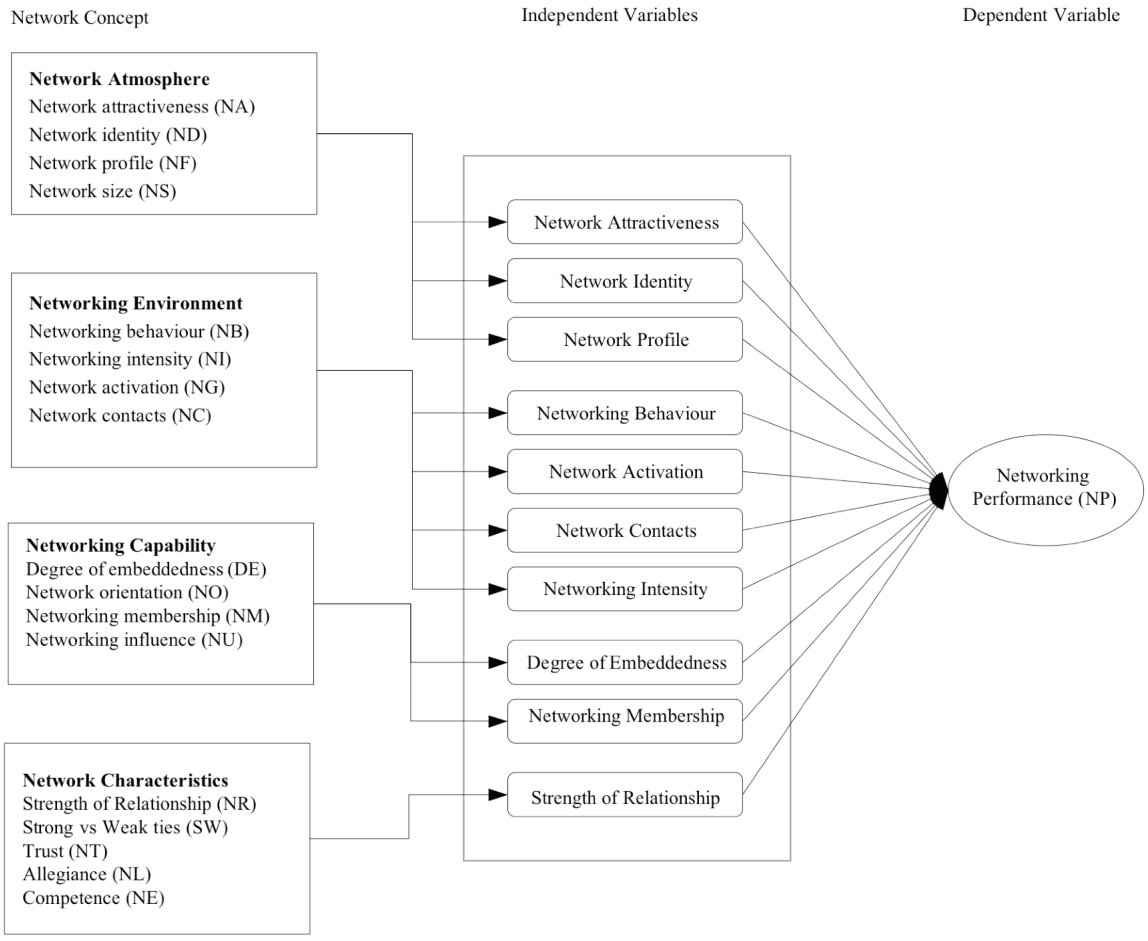
1. Network Atmosphere
2. Network Environment
3. Network Capability
4. Network Characteristics

The four construct headings were derived from the network terms and theoretical antecedents in Table 3.1, as developed in the conceptual framework. The term network atmosphere was found to be ambiguous by the pilot study group, as they found the word 'atmosphere' difficult to relate to their networking groups, as described in 5.1. Therefore network atmosphere was subdivided into 'network attractiveness' and 'network profile', which the respondents were able to identify as networking attributes. Similarly, 'network environment' was sub-divided into 'network meetings (activation)', 'network contacts', 'networking behaviour' and 'networking intensity' for the same reason. 'Networking capability' was subdivided into 'degree of embeddedness' (network membership) and 'networking outcomes'. Network characteristics, allegiance and trust were combined under the general term 'strength of relationship' as they were all responded to positively by the pilot study sample. The concept of 'strong versus weak ties' received a neutral response in the pilot study but was included under the heading of networking

characteristics as other studies have found this to be an indicator of networking performance (Ritter et al. 2004). The refined list of networking indicators was then synthesised to produce a potential list of independent variables within a revised conceptual framework, as shown in Figure 5.1.

**FIGURE 5.1**

**Conceptual Model Refinement**




The resulting independent variables shown in Figure 5.1 were identified as indicators of networking performance. The refined list proved to be a close fit with the original

conceptual framework as detailed in Figure 3.3 and gave a high level of confidence as the conceptual model was developed.

### 5.3 Hypotheses

In this section I will posit my hypotheses in support of this thesis. The Oxford English Dictionary definition of hypothesis (Hypotheses PL) is ‘a supposition made as the basis for reasoning’ (Ostler 1994). The academic use of hypothesis is ‘a proposed explanation for a phenomenon’, to be ‘put under’ or ‘to suppose’ and is the antecedent of a proposition. A hypothesis is a concept capable of being tested and measured by reference to observable phenomena (Hempel 1959).

#### 5.3.1 Introduction to the Hypotheses

From the results of the pilot study, each of the key constructs were developed as variables to test the hypothesis that NP was dependent on a number of predictors (independent variables). Perceptions of NP vary within individual firms as described by the respondents and the measures used need to reflect this variance, recognising that respondents may be aware and involved in different aspects of the networking process. A series of indicators has therefore been identified for each of the constructs developed from the outline hypotheses, with the independent variables shown in the development of the conceptual model shown in Figure 5.1. The aim was to analyse these with a range of statistical tests using proprietary software (SPSS v16). Using regression analysis, a statistical model would be tested to understand the relationship between the constructs to

predict the outcome (Greenfield 2002). The results were designed to develop a model of Networking Performance (NP).

The dyadic nature of network relationships where actor perceptions differ, as seen in the findings from the pilot study, can present a problem for researchers seeking a quantifiable approach relying on simple aggregation to analyse actor constructs. Medlin (2003b) provides a view of performance in networks based upon firms' perceptions within a single and multi level framework. However, the short term nature of economic considerations alone may not be a long term indicator of NP and wider measures involving a number of networking constructs as indicated in Figure 5.1 have been sought (Ritter 2002). From this, it is suggested that NP is dependent on the constructs identified as independent variables in the conceptual model. In this thesis, I seek to investigate the antecedents of Networking Performance (NP)

### 5.3.2 Dependent variable

***Networking Performance***

The notion that networking activities will have a positive impact on networking performance is at the core of this research proposal and provides the background to this study to develop and test a model of NP. Networking performance was identified in the development of this research as a new construct being a measure of sales turnover attributed to business networking activities. Recognising the difficulties of obtaining meaningful financial performance measures from firms, led to the realisation that the perceived financial and economic benefits of networking were likely to offer a realistic

view of networking performance (Chell 2000; Medlin 2003). By adopting a financial measure, the study had a possibility of making a direct comparison between networking activity and networking performance. The difficulty associated with measuring the extent of networking activity within network constructs is confirmed by Chell (2000) and is supported by Dennis (2000). Meanwhile McLoughlin and Horan (2000) and Medlin (2003) see financial aspects of the network relationship as a major factor in describing and measuring performance in networks. Hays and Senneseth (2001, p.294) found that few network studies had focused on the long term economic benefits for the individual firm in belonging to a network. Terziovski (2003) also found a lack of rigorous research reported in the literature that tests the relationship between networking practices and business excellence. Similarly, Hollenbeck et al. (2009, p.134) suggest that measures of networking success from a business perspective have to be based on more than counts of interaction, noting that successful networks are characterised by consistent interaction among members and regular sharing of information. The existing research has reported various outcomes from networking, e.g. knowledge sharing, competitor intelligence, resource sharing, product innovation and market extension (Chell 2000; Dennis 2000; Gilmore et al. 2001; O'Donnell and Cummins 1999; Swann et al. 1999).

In a study of the outcomes of networking from a perspective of firm performance, Ottesen et al. (2004) investigated SMEs networking activities in respect to the firm's relative economic performance within its industry. The financial benefits of a network relationship are a major factor in describing networking success, with a high degree of coordination and maintenance required to achieve network goals (Dennis 2000). The

positive outcomes of networking activity identified by McLoughlin and Horan (2000) also suggest that the financial aspects of a networking relationship are a major factor contributing to networking success. The advantage of an economic focus in the study of network effectiveness is that it offers direct performance indicators relative to commercial expectations from networks (Seggie et al. 2007). The notion of networking performance being the outcome of networking activity is therefore seen as an important consideration for firms' participation in business networks. There was empirical support for the measure of NP in assessing the outcomes of business networking activities from the pilot study, where respondents were able to demonstrate a good understanding the value of the business they were able to generate from networking.

***I therefore posit that Networking Performance (NP) is dependent on the constructs identified as independent variables as described in the conceptual model in Figure 5.2.***

### 5.3.3 Independent Variables

***Network Attractiveness***

The idea of networks having a discernable identity, atmosphere and therefore degree of attractiveness as described by Ford et al. (1998), is encapsulated in the notion of the network environment and the resulting social bonds and inherent attractiveness suggested earlier by Granovetter (1985). The notion of network attractiveness is recognised as being problematic because of the interconnectedness of the terms surrounding phrases like network environment and network atmosphere (Holmlund and Törnroos 1997). However, firms appreciating the relative attractiveness of embedded networks perceive

distinct differences in relative network performance (Ritter et al. 2004). Network attractiveness is defined as a construct which describes the mutual interest between actors within a network (Ellegaard and Ritter 2008). Attractiveness is recognised to be an important constituent in network's identity and can lead to other actors' initiatives to establish a relationship, akin to social attraction and social network ties (Granovetter 1973). Network attractiveness is determined by dimensions of emotional consideration, interaction process and value creation. Anderson and Håkansson (1994) stressed the importance of social attractiveness in dyadic business relationships and the environment in which they operate. This idea was supported by Gadde and Mattsson (1987) and whilst these researchers generalised when talking about the social exchange perspective on dyadic relations and social networks, all agree that exchange relationships are contingent on network attractiveness. A firm's network perspective provides the context for reviewing the perceived attractiveness of a network of connected business partners (Håkansson and Snehota 1989). The concept of network attractiveness is seen as the focal firm's perspective within the dyadic network construct and was influential in the development of the conceptual framework. This is supported by the empirical evidence from the respondents in the pilot study who demonstrated a clear perspective as to what constituted an 'attractive network' and therefore its likely impact on networking outcomes and NP.

Based on the above, I propose my first hypothesis:

***$H_{1a}$: Greater network attractiveness will have a positive influence on networking performance.***

***Network Identity***

Networks are said to have an identity bounded by knowledge about the atmosphere in which they are engaged Håkansson (1982), limited by the perceived network horizon and the inability to see beyond a number of network connections and relationships. A network horizon will vary over time and the part of the network within the horizon that the actor considers relevant at any point in time is what according to Håkansson and Snehota (1989) gives the network context or identity. In considering identity and identification in networks Huemer et al. (2004) introduces the notion of identities in networks which is said to enhance the awareness of interdependence and embeddedness, which in turn promotes a sense of belonging. However, the identity of the network and the relationships which provide a perceived level of importance is said to be created between connected firms (Anderson and Håkansson 1994). Network identity is considered to capture the attraction of a firm as a potential network partner in a unique set of interconnected relationships with other firms. It is the network 'identity' which defines how firms see themselves in the network and how they are seen by others in the network. Because network identity is perceived from the viewpoint of the actor or firm, it is important to describe network identity in the context of the network under consideration, and it is for this reason that it was considered in the same dimension as the perceived network atmosphere, suggested by (Achrol 1997; Achrol and Kotler 1999).

The identity of a network was also considered important by the respondents to the pilot study, where having a clear network identity was seen to offer a competitive advantage. Respondents also made a connection between network identity and network profile in

determining the perceived 'standing' of the networking group and its ability to influence networking performance.

Based on the above, I hypothesize:

***$H_{1b}$: There is a positive relationship between network identity and networking performance.***

***Network Profile***

If network identity defines how firms see themselves in a network, then network profile is how they are seen by others (Håkansson and Snehota 1989). Network profile is defined as how the network is perceived from the viewpoint of the actors in a network (Achrol and Kotler 1999). It is seen in the same dimension as network atmosphere and was considered an important operational factor by the respondents in the pilot study in assessing the attractiveness of a network. From the evidence of the pilot study, respondents identified network profile as contributing to networking outcomes and overall networking performance.

Based on the above, I hypothesize:

***$H_{1c}$: There is a positive relationship between network profile and networking performance.***

***Networking Behaviour***

Networking behaviour is described as the interactive network process whereby actors seek to develop close relationships on the basis of reciprocal and mutually beneficial actions (Thorelli 1986). The nature and behaviour within the dyadic relationship is characterised by length of relationship and frequency of contact through network activation and the social bonds which affect networking behaviour. Behaviour conditions the mutual interactions between actors in a network and defines the nature of the dyadic relationship (Ford et al. 2003). Network behaviour can be seen to have stabilising or destabilising consequences on the performance of the network. A business network is sustained by dyadic business relationships, which by their nature are dynamic and can be heavily influenced by the perceived behaviour of actors within the dyadic structure of the network, strengthening or weakening the network by their individual actions (Anderson and Håkansson 1994). The idea of reciprocal networking behavioural traits resulting in shared networking opportunities is widely accepted by participants in the pilot study, reinforcing the belief that positive networking behaviour will influence networking performance.

Based on the above, I hypothesize:

***$H_{2a}$: Networking behaviour will have a positive influence on networking performance.***

***$H_{2b}$: There is a positive relationship between network activation and networking performance.***

***$H_{2c}$: There is a positive relationship between networking contacts and networking performance.***

***Networking Intensity***

Networking intensity refers to the extent of the interacting organisation's resources committed to the networking relationship, in terms of frequency of contact & amount of resources (Aldrich 1979). However, intensity alone may not a indicator of networking performance but there is evidence that when linked with networking behaviour, capability and competence, networking intensity has a positive impact on networking outcomes (Van de Ven 1976). Networking intensity is said to refer to the extent to which individuals (actors) honour their obligations to others in the network (O'Donnell et al. 2001). Intensity is also recognised as an important dimension of a network's environment (Gemünden et al. 1996). Frequency of interaction is considered likely to have a positive influence of firm performance (Üstüner and Iacabucci 2012). Successful networks are said to be characterised by consistent interaction among members and regular sharing of information (Hollenbeck et al. 2009, p.134). The idea of networking intensity influencing networking performance is supported by the empirical data from the pilot study, where regular involvement in networking activities is seen as a positive influence on networking performance.

Based on the above, I hypothesize:

***$H_{2d:}$ Greater networking intensity will have a positive influence on networking performance.***

***Degree of Embeddedness***

The degree to which an actor firm is embedded in a network relates to the linkages of economic action and outcomes, the actors' dyadic relations and the overall structural, economic and social dimensions of the network (Holmlund and Törnroos 1997). The importance of embeddedness in actor network relations is recognised by Håkansson (1987) with the extent of its influence on networking outcomes dependent on the nature of the relationships between actor firms and their commitment to create positive outcomes. Firms are said to appreciate the relative attractiveness of embedded networks are able to describe the network atmosphere and perceive distinct differences in relative performance (Ritter et al. 2004). Recognising the significance of embeddedness to business networks, Üstüner and Iacobucci (2012, p200), posit that embeddedness is expected to improve economic outcomes. Respondents to the pilot study also supported the idea that the membership of a business network and degree of embeddedness in that network has a positive and long term influence on networking outcomes and networking performance.

Based on the evidence suggesting a positive impact when linking networking membership and the degree of embeddedness in the network with networking performance.

Based on the above, I hypothesize:

***$H_{3a}$: Greater network embeddedness will have a positive impact on networking performance.***

***$H_{3b}$: There is a positive relationship between network membership and networking performance.***

***Strength of Relationship***

The economic value of relationships in networks is complex but critical to understanding the potential the perceived benefits of the relationship (Ford et al. 2003). The ability of a firm to develop and manage relationships in networks is seen as a core networking competence (Ritter 2002). Holmlund and Törnroos (1997, p.306) suggest that in considering the long-term character of relationships in networks, relationships are said to endure through continuation and be long lasting, where strength of relationship which is said to increase over time, strengthening the actor network bonds. Richards and Jones (2009, p.312) found that relationship effectiveness had a positive effect on sales performance. Terziovski (2003, p.91) suggest that networking practices have a significantly positive effect on business excellence and found that the strength of relationship between networking practices and business excellence to be significant and positive. Respondents to the pilot study also agreed that building relationships in networks was crucial to achieving the best possible networking outcomes and see strength of network relationships as an important part of improving networking performance.

Based on the above, I hypothesize:

***$H_4$: Stronger networking relationships will have a positive impact on networking performance.***

**FIGURE**

**5.2 Conceptual Model**

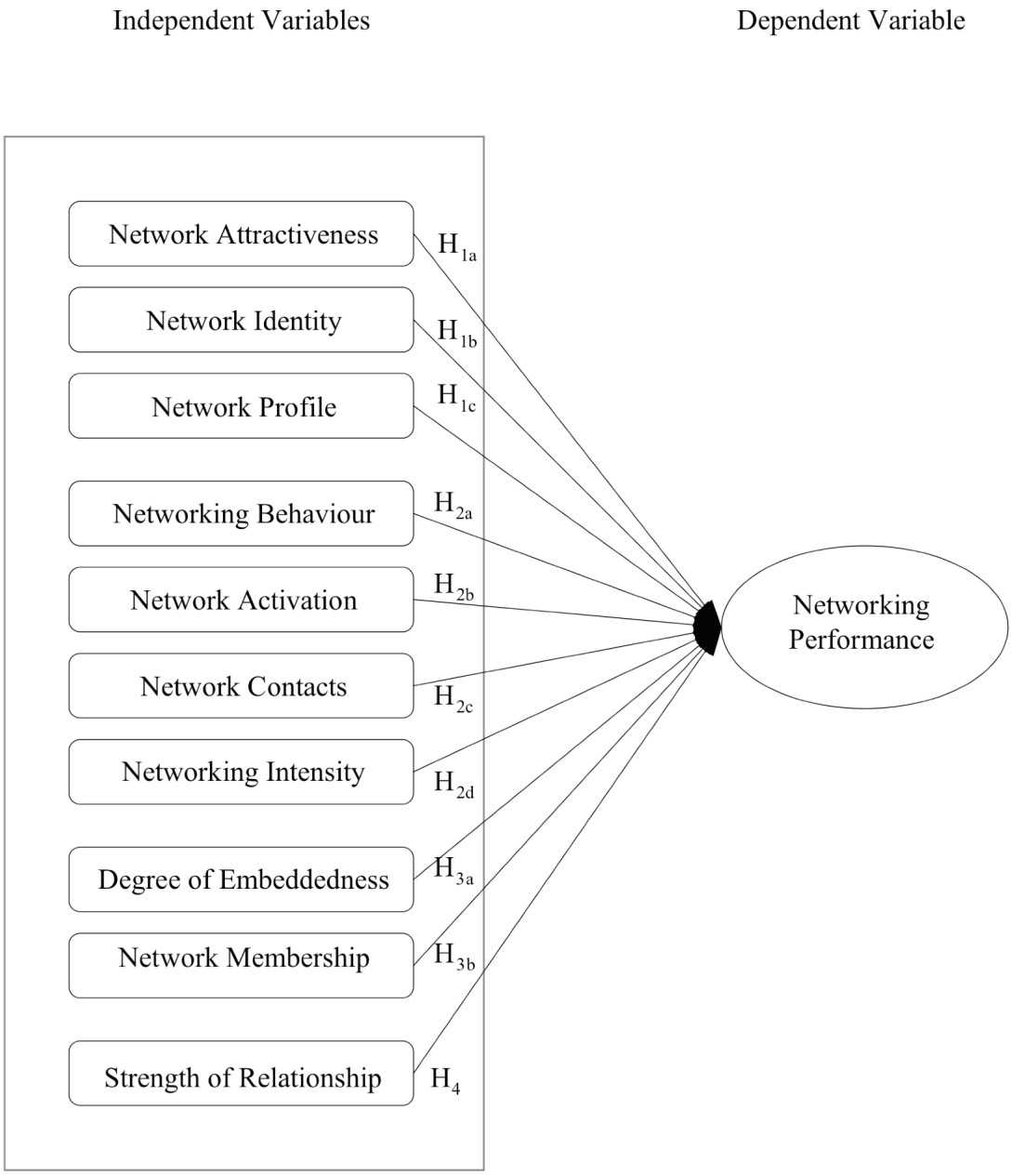


**TABLE 5.6**

**Statement of Hypotheses**

| | |
|---|---|
| $H_{1a}$ | Greater network attractiveness will have a positive influence on networking performance. |
| $H_{1b}$ | There is a positive relationship between network identity and networking performance. |
| $H_{1c}$ | There is a positive relationship between network profile and networking performance. |
| $H_{2a}$ | Networking behaviour will have a positive influence on networking performance. |
| $H_{2b}$ | There is a positive relationship between network activation and networking performance. |
| $H_{2c}$ | There is a positive relationship between network contacts and networking performance. |
| $H_{2d}$ | Greater networking intensity will have a positive influence on networking performance. |
| $H_{3a}$ | Greater network embeddedness will have a positive influence on networking performance. |
| $H_{3b}$ | Networking membership will have a positive influence of networking performance. |
| $H_{4}$ | Strength of relationship will have a positive influence on networking performance. |

## 5.4 Conclusion

In this chapter the results from the qualitative phase of this research have been presented. The findings from the qualitative study were analysed and used to refine the conceptual model. The study was based on twenty depth interviews with experienced members of business networks in the West Midlands based on a semi-structured technique to gain an operational perspective on business networking. This was a prelude to confirming the list of variables to be examined using a self-completed questionnaire in the main postal survey. Based on the original conceptual framework, a conceptual model was created using the refined list of variables as part of the process of developing a testable parsimonious model. Finally the hypotheses for this thesis were developed and a statement of hypotheses was presented. The overall objective of the research is to develop and test a model of networking performance (NP), the results of which will be presented in the following Chapter 6.

# Chapter 6

# Results

**Chapter Content**



## 6.0 Introduction

This chapter presents the results from the quantitative phase of this research, with the findings and descriptive statistics from the main postal survey. The chapter builds on the results from the qualitative phase of this research and the findings from the pilot study described in the previous chapter. The pilot study findings were used to refine the constructs presented in the conceptual model in Figure 5.3.

The objective of this survey is to test a model of networking performance, (abbreviated to NP). This was an empirical study of respondents' business to business (b2b) networking activities in the West Midlands.

The findings from a qualitative pilot study were used to refine the variables examined in the main study using statistical techniques. A total of 282 responses were received, giving a 9.3% overall response rate to the postal survey. After data verification and checking for completeness, 237 useable responses were identified for the purpose of analysis.

After data entry, exploratory factor analysis is used to extract the multi item measures using in SPSS v16. The total variance associated with each factor is assessed and compared with the visual representation on the scree plot for each construct group. Kaiser Normalisation with varimax rotation is used to rotate the factor loadings to assist the interpretation of the correlation pattern for the selected variables. The factors having the highest loading were minimised and the largest coefficients shown as higher compared to the smaller coefficients in each of the constructs. OLS regression is used to estimate the model of NP and to examine the results. Tests for interaction were used to examine the moderating and mediating effect of the independent variables (Baron and Kenny 1986). Finally, the theoretical implications of the results are presented prior to discussing the findings in the following chapter.

### 6.1 Development of Measures

For this research, a combination of scales were used to measure the dependent and independent variables, as discussed in Chapter 3 and presented in Figure 3.3. The following sections will describe each variable in turn.

#### 6.1.1 Dependent Variable

Networking Performance (NP) is the dependent variable in this study. Existing research has measured performance in networks in terms of relationships within a framework of network activities at the actor/firm level (Medlin 2003, p.2). Relationship performance is defined as 'the perceived economic performance of the relationship parties, relative to expectations in that network.

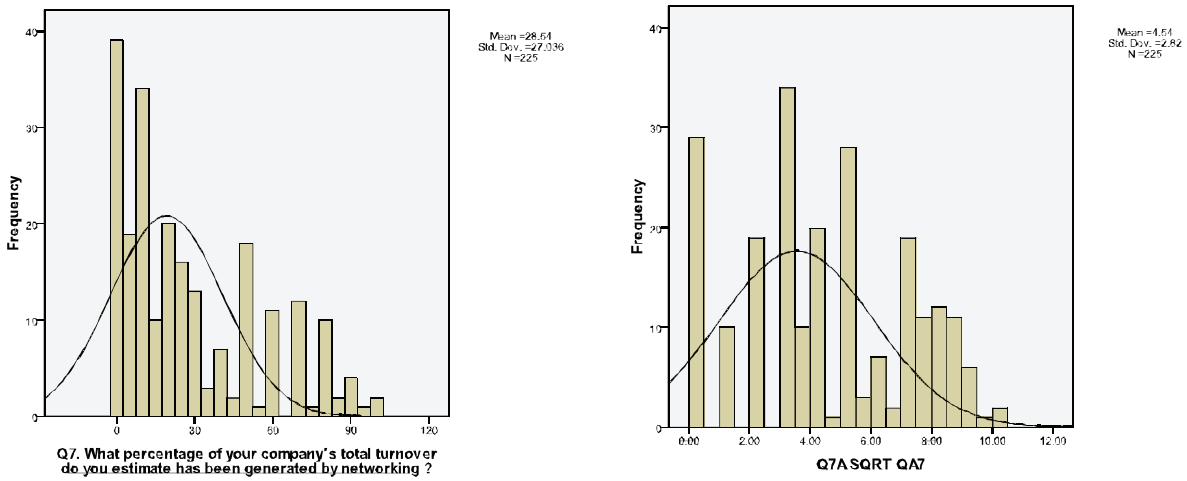
However, as this study is interested in measuring the networking performance derived from the perspective of the focal firm, a more precise economic measure was required. Medlin (2003, p.6) found that performance constructs in measuring outcomes generally lacked precision and that it would be advisable to measure more directly the purpose of the economic activity. Economic performance measures within networks have been considered good indicators of networking activity (Hays and Senneseth 2001; Kandemir et al. 2006; Lehmann 2004). Therefore sales turnover was selected as the DV for this study, being a measure of economic performance of a firm within a network. NP was measured by using the response to the question "What percentage of your company's

sales turnover do you estimate has been generated by networking?" Q7 in the questionnaire in Appendix C.

However, initial analysis of the DV showed that the responses were not normally distributed as shown in the histogram in Figure 6.1.

**Figure 6.1**

**Q7 Distribution of Responses**




The graph on the left illustrates the distribution of responses for the DV and shows the responses to Q7 to be positively skewed. The DV was transformed as the Square Root of Q7 which reduced the degree of skewness and produced a more normal distribution as shown in the histogram on the right in Figure 6.1 and described in Table 6.1. The nil responses were retained as no assumption could be made about whether the responses were really nil or whether the respondents could not answer the question (Norusis 2008).

**Table 6.1**

**Q7 Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation | Variance | Skewness | | Kurtosis | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| Q7. % generated | 225 | 0 | 100 | 28.54 | 27.036 | 730.946 | .872 | .162 | -.381 | .323 |
| Q7A SQRT QA7 | 225 | .00 | 10.00 | 4.5413 | 2.82028 | 7.954 | .023 | .162 | -.952 | .323 |
| Valid N (listwise) | 225 | | | | | | | | | |

### 6.1.2 Independent Variables

There are 4 overarching constructs identified from the literature, network atmosphere (NA), network environment (NE), network capability (NCa) and network characteristics (NCh), described in Figure 5.1. Since these four constructs may breakdown into discrete variables as suggested in the literature and the qualitative findings, each set of items from NA, NE, NCa and NCh was subjected to exploratory factor analysis. Principal components analysis in SPSSv16 was used to extract the factors within the broad constructs. The following sections report the factor analysis results for each of the main sub-groups, using:-

- Kaiser-Meyer-Olkin (KMO) test for sampling adequacy
- Barlett's test for sphericity
- Factor extraction using principal components analysis
- Factor rotation using Varimax

**Network Atmosphere**

Networks are described as having a discernable atmosphere and therefore network atmosphere is considered a precursor to understanding the identity of the network (Granovetter 1985). The survey used 9 items under the broad construct of network atmosphere (Q20a-i) as described in the survey instrument in Appendix C.

KMO and Bartlett's Test

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin measure of sampling adequacy | | 0.676 |
| Bartlett's Test of sphericity, approx Chi-Square | | 357.546 |
| | df | 36 |
| | Sig | 0.000 |

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy at 0.676 is 'mediocre' according to Kaiser (1974) but being greater than 0.50, is considered acceptable for satisfactory factor analysis (Norusis 2008). Bartlett's test of sphericity is used to test the null hypothesis that the observed data are a sample from a population in which all correlation coefficients are 0 (Bryman and Cramer 2005). In this case where the approx Chi-Square is 357.546 with a significance level less than 0.01, it is safe to employ the factor model.

**TABLE 6.2a**

**Exploratory Factor Analysis – Network Atmosphere**

Rotated Component Matrix

| | Component | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| Q20a. High calibre members produce better business results | 0.833 | 0.098 | -0.003 |
| Q20b. High quality networking venues attract better members | 0.807 | 0.098 | 0.26 |
| Q20c. More members means better business results | 0.580 | 0.168 | -0.014 |
| Q20d. I will attend a networking event if the speaker is good | 0.130 | -0.007 | 0.675 |
| Q20e. Being part of a national network is important | 0.148 | 0.710 | -0.098 |
| Q20f. More expensive memberships generate better results | 0.043 | 0.872 | 0.014 |
| Q20g. There is more kudos in being in a prestigious network | 0.289 | 0.698 | 0.319 |
| Q20h. Smaller network groups are more friendly | -0.097 | -0.067 | 0.710 |
| Q20i. I prioritise my networks based on their attractiveness | 0.130 | 0.160 | 0.636 |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalisation.
Rotation converged in 4 iterations.

## TABLE 6.2b

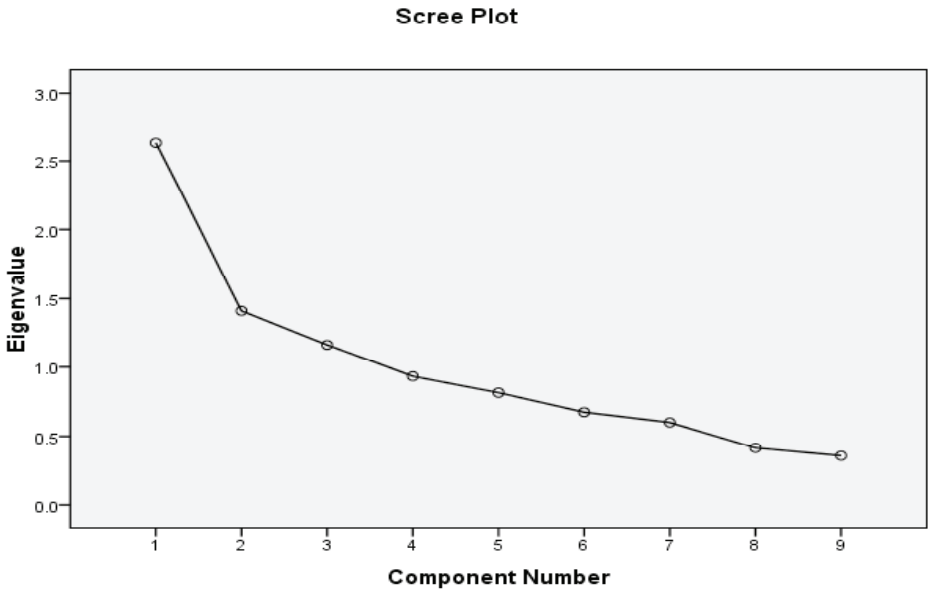
## Exploratory Factor Analysis – Network Atmosphere

| | Initial Eiganvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|
| Comp | Total | % Variance | Cumulative % | Total | % Variance | Cumulative % | Total | % Variance | Culmulative % |
| 1 | 2.263 | 29.270 | 22.270 | 2.634 | 29.270 | 29.270 | 1.832 | 20.356 | 20.356 |
| 2 | 1.409 | 15.660 | 44.930 | 1.409 | 15.660 | 44.930 | 1.830 | 20.331 | 40.687 |
| 3 | 1.161 | 12.905 | 57.835 | 1.161 | 12.905 | 57.835 | 1.543 | 17.148 | 57.835 |
| 4 | 0.903 | 10.367 | 68.202 | | | | | | |
| 5 | 0.815 | 9.051 | 77.253 | | | | | | |
| 6 | 0.674 | 7.488 | 84.741 | | | | | | |
| 7 | 0.600 | 6.662 | 91.403 | | | | | | |
| 8 | 0.415 | 4.616 | 96.019 | | | | | | |
| 9 | 0.358 | 3.981 | 100.000 | | | | | | |

The factor analysis suggests that there are 3 variables present, accounting for 57.835% of the total variance. The initial factor loadings are shown in the scree plot at Figure 6.2 with 3 components having Eigenvalues >1.0 to explain the relationship between the factors and the individual variables.

## FIGURE 6.2

## Network Atmosphere – Scree Plot



Varimax rotation is used to increase the ability to interpret the extracted factors by rotating the factors to discriminate between high and low loading variables. Varimax rotation confirmed there were 3 factors with loadings >0.5 for items network attractiveness (Q20a,b,c), network identity (Q20d,h,i) and network profile (Q20e,f,g). The following section describe these factors and the results of reliability tests.

***Network Attractiveness*** is defined as a construct which describes the mutual interest between actors within a network Ellegaard and Ritter (2008, p.4) and is recognised as being a desirable quality in a network (Granovetter 1973). It was measured using 3 items developed in the qualitative pilot study.

| Question | Statement measured on a 7 point scale |
|---|---|
| Q20a | High calibre members produce better business leads |
| Q20b | High quality networking venues attract better members |
| Q20c | More members in a network means better business results |

The reliability of this scale was assessed using Cronbach's alpha as described in Norusis p.432 (2008). The Cronbach alpha for this variable with 3 items was 0.636 which is below the desirable limit of 0.7 (Norusis 2008). However, by dropping the third item, the remaining 2 items (Q20a and Q20b) account for 40.068% of the overall variance was improved with a Chronbach alpha of 0.707. This brings it within the acceptable limit and therefore suggests that network attractiveness is a reliable construct.

Reliability Statistics:

| Chronbach's alpha | Number of items |
|---|---|
| 0.707 | 2 |

Item - Total Statistics

| Question | Scale Mean if item Deleted | Scale variance if item Deleted | Corrected item - Total Correlation | Chronbach's alpha if item Deleted | |
|---|---|---|---|---|---|
| Q20a | 10.01 | 5.321 | 0.487 | 0.479 | |
| Q20b | 10.08 | 5.511 | 0.541 | 0.417 | |
| Q20c | 10.45 | 5.829 | 0.330 | 0.707 | Item deleted |

The final variable network attractiveness was computed as a mean of items Q20a and Q20b.

***Network Identity*** is said to capture the attraction of a firm as a potential network partner in a unique set of interconnected relationships with other firms (Anderson and Håkansson 1994). It was measured using 3 items developed in the qualitative pilot study.

| Question | Statement measured on a 7 point scale |
|---|---|
| Q20d | I will attend a networking event if the speaker is good |
| Q20h | Smaller networking groups are more friendly |
| Q20i | I prioritise my networks based on their attractiveness |

The Cronbach alpha for this variable was 0.441 which is below the desirable limit of 0.7 and therefore not reliable.

Reliability Statistics:

| Chronbach's alpha | Number of items |
|---|---|
| 0.441 | 3 |

Item - Total Statistics

| Question | Scale Mean if item Deleted | Scale variance if item Deleted | Corrected item - Total Correlation | Chronbach's alpha if item Deleted |
|---|---|---|---|---|
| Q20d | 9.12 | 6.583 | 0.265 | 0.349 |
| Q20h | 9.53 | 7.098 | 0.297 | 0.301 |
| Q20i | 9.66 | 6.216 | 0.248 | 0.389 |

The result suggests that the measures for network identity are reliable construct and this construct was therefore dropped from further analysis.

***Network Profile*** is defined as 'how the network is perceived from the viewpoint of the actors both within and outside a network' Achrol and Kotler (1997, p.161) where network profile is seen as a social phenomenon in assessing the relative prestige of a network. It was measured using 3 items developed in the qualitative pilot study.

| Question | Statement measured on a 7 point scale |
|---|---|
| Q20e | Being part of a national network group is important |
| Q20f | More expensive memberships generate better results |
| Q20g | There is more kudos in being in a prestigious network |

The Cronbach alpha for this variable was 0.717 which is above the desirable limit of 0.7 and is therefore considered reliable.

Reliability Statistics:

| Chronbach's alpha | Number of items |
|---|---|
| 0.717 | 3 |

Item - Total Statistics

| Question | Scale Mean if item Deleted | Scale variance if item Deleted | Corrected item - Total Correlation | Chronbach's alpha if item Deleted |
|---|---|---|---|---|
| Q20e | 6.410 | 7.669 | 0.404 | 0.692 |
| Q20f | 7.610 | 8.640 | 0.597 | 0.463 |
| Q20g | 6.500 | 7.555 | 0.479 | 0.573 |

The final variable network profile was computed as a mean of these 3 items

**Network Environment**

The survey used 9 items under the broad construct of network environment (Q6a-i) as described in the survey instrument at Appendix C. The notion that networks have a discernable environment is built on a number of network characteristics, including networking behaviour examined in the pilot study. Network environment, identified by Thorelli (1986), is seen as being important in understanding networks and hierarchies.

KMO and Bartlett's Test

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin measure of sampling adequacy | | 0.781 |
| Bartlett's Test of sphericity, approx Chi-Square | | 738.524 |
| | df | 36 |
| | Sig | 0.000 |

The KMO measure of sampling adequacy at 0.781 is 'middling' according to Kaiser (1974) but being greater than 0.50, is considered acceptable for factor analysis (Norusis 2008). Barlett's test of sphericity has a Chi-Square of 738.524 with a significance level less than 0.01, which means that it is safe to employ the factor model.

**TABLE 6.3a**

**Exploratory Factor Analysis – Network Environment**

Rotated Component Matrix

| | Component | | |
|---|---|---|---|
| | 1 | 2 | 3 |
| Q6a. Networking is an important part of our marketing | 0.881 | 0.220 | -0.046 |
| Q6b. Networking is a good way to meet business contacts | 0.991 | 0.163 | -0.041 |
| Q6c. Networking is a good source for business referrals | 0.858 | 0.101 | 0.036 |
| Q6d. Networking comes naturally and I am an enthusiast | 0.586 | 0.444 | -0.224 |
| Q6e. I prepare in advance for a networking meeting | 0.339 | 0.707 | 0.075 |
| Q6f. I note the names of new contacts I want to meet | 0.076 | 0.777 | 0.075 |
| Q6g. I feel more comfortable talking to people I know | 0.011 | -0.183 | 0.807 |
| Q6h. I always follow-up new contacts after the network meeting | 0.129 | 0.669 | -0.050 |
| Q6i. I prefer new contacts to approach me after the meeting | -0.084 | 0.073 | 0.817 |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalisation.
Rotation converged in 5 iterations.

**TABLE 6.3b**

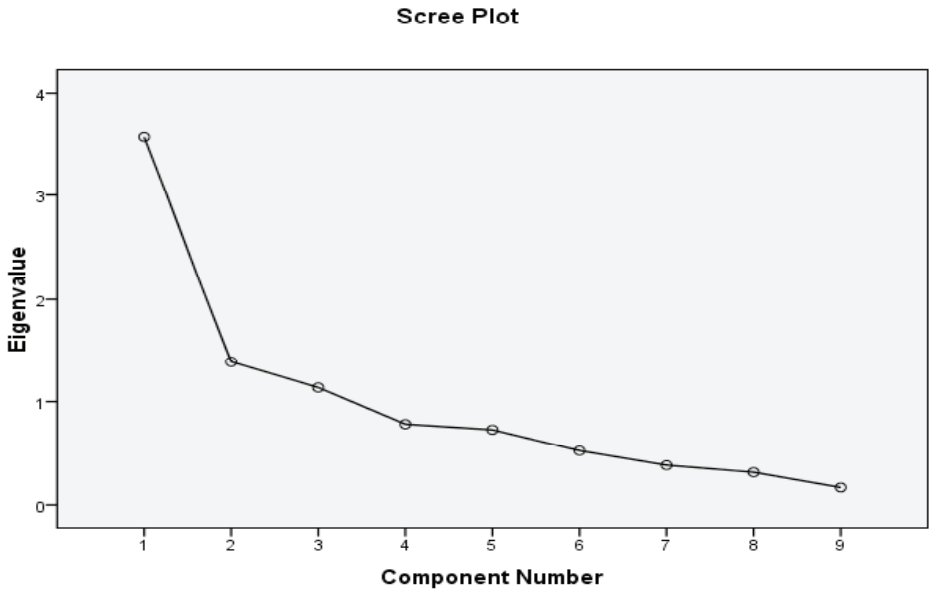
**Exploratory Factor Analysis – Network Environment**

| | Initial Eiganvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|
| Comp | Total | % Variance | Cumulative % | Total | % Variance | Cumulative % | Total | % Variance | Culmulative % |
| 1 | 3.570 | 39.668 | 39.668 | 3.570 | 39.668 | 39.668 | 2.831 | 31.457 | 31.457 |
| 2 | 1.383 | 15.372 | 55.040 | 1.383 | 15.372 | 55.040 | 1.866 | 20.738 | 52.195 |
| 3 | 1.136 | 12.617 | 67.657 | 1.136 | 12.617 | 67.657 | 1.392 | 15.462 | 67.657 |
| 4 | 0.783 | 8.705 | 76.361 | | | | | | |
| 5 | 0.729 | 8.102 | 84.463 | | | | | | |
| 6 | 0.526 | 5.849 | 90.312 | | | | | | |
| 7 | 0.385 | 4.281 | 94.593 | | | | | | |
| 8 | 0.317 | 3.523 | 98.116 | | | | | | |
| 9 | 0.170 | 1.884 | 100.000 | | | | | | |

The variables loading on networking environment include networking behaviour (Q6a-d) which accounts for 39.008% of the variance, with networking meetings (Q6e-f) accounting for a further 15.372% and networking contacts (Q6g&i) representing an additional 12.617% of the total variance, as shown in the scree plot in Figure 6.2.

**FIGURE 6.3**

**Networking Environment – Scree Plot**



***Networking Behaviour*** is described as the interactive process whereby actors seek to develop close relationships on the basis of reciprocal and mutually beneficial actions (Thorelli 1986). It is seen to be a proactive trait by those with a disposition to positive networking activities. It was measured using 4 items developed in the pilot study.

| Question | Statement measured on a 7 point scale |
|---|---|
| Q6a | Networking is an important part of our marketing |
| Q6b | Networking is a good way to meet business contacts |
| Q6c | Networking is a good source for business referrals |
| Q6d | Networking comes naturally and I am an enthusiast |

The reliability of this scale was assessed using Cronbach's alpha (Norusis 2008). The Cronbach alpha for this variable was 0.866. However, this was improved to 0.890 by deleting the fourth item (Q6d). This is above the desirable limit of 0.7 and is therefore the improved variable labelled *planned networking behaviour* (PNB) is considered reliable.

Reliability Statistics:

| Chronbach's alpha | Number of items |
|---|---|
| 0.890 | 3 |

Item - Total Statistics

| Question | Scale Mean if item Deleted | Scale variance if item Deleted | Corrected item - Total Correlation | Chronbach's alpha if item Deleted |
|---|---|---|---|---|
| Q6a | 11.360 | 6.615 | 0.812 | 0.820 |
| Q6b | 11.200 | 7.704 | 0.828 | 0.814 |
| Q6c | 11.780 | 6.493 | 0.729 | 0.901 |

The final variable Planned Networking Behaviour (PNB) was computed as a mean of these 3 items, being associated with the more strategic aspects of networking seen as part of the marketing mix, developing business contacts and obtaining business referrals.

***Network Activation*** is achieved by attending planned networking activities or meetings with a clear purpose or business goal, designed to meet specific business objectives. This was measured using 3 items developed in the qualitative pilot study.

| Question | Statement measured on a 7 point scale |
|---|---|
| Q6e | I prepare in advance for a networking meeting |
| Q6f | I note the names of new contacts I want to meet |
| Q6h | I always follow up new contacts after the meeting |

The reliability of this scale was assessed using Cronbach alpha, which for this variable at 0.617 is below the desirable limit of 0.7 and is therefore not reliable.

Reliability Statistics:

| Chronbach's alpha | Number of items |
|---|---|
| 0.617 | 3 |

Item - Total Statistics

| Question | Scale Mean if item Deleted | Scale variance if item Deleted | Corrected item - Total Correlation | Chronbach's alpha if item Deleted |
|---|---|---|---|---|
| Q6e | 9.200 | 6.431 | 0.461 | 0.467 |
| Q6f | 9.290 | 6.055 | 0.437 | 0.504 |
| Q6h | 8.800 | 7.226 | 0.384 | 0.575 |

The variable networking meetings was found to not be reliable and was therefore dropped.

***Networking Contacts*** are defined as personal contacts within a network's sphere of influence (Wilson 1991). This was measured using 2 items developed in the qualitative pilot study.

| Question | Statement measured on a 7 point scale |
|---|---|
| Q6g | I feel more comfortable talking to people I know |
| Q6i | I prefer new contacts to approach me after the meeting |

The Cronbach alpha for this variable was 0.513 which is below the desirable limit of 0.7 and therefore not reliable.

Reliability Statistics:

| Chronbach's alpha | Number of items |
|---|---|
| 0.513 | 2 |

Item - Total Statistics

| Question | Scale Mean if item Deleted | Scale variance if item Deleted | Corrected item - Total Correlation | Chronbach's alpha if item Deleted |
|---|---|---|---|---|
| Q6g | 3.39 | 2.739 | 0.345 | |
| Q6i | 4.61 | 2.899 | 0.345 | |

The variable network contacts was not reliable and was therefore dropped.

***Networking Intensity*** is a single item measure (Q5), included as a measure in this analysis due to the emerging positive relationship between attendance at networking events and NP. The dimension of networking intensity is recognised as being an important part of a network's environment and therefore an indicator of performance in networks (Gemunden et al. 1996; Haynes and Senneseth 2001; Lambert et al. 2009). As a single item measure, networking intensity was not subject to Chronbach's alpha test of reliability but is considered an important variable to be considered as an indicator of networking performance from the findings in the pilot study findings.

| Question | Statement |
|---|---|
| Q5 | On average how many networking events do you attend per month? |

**Network Capability**

Networking capability is defined as a firm's ability to develop and use inter-firm relationships, being measured by the degree of embeddedness, resources and task execution (Ritter and Germunden 2003). The survey used 9 items under the broad construct of network capability (Q17a-i) as described in the survey instrument in Appendix C.

KMO and Bartlett's Test

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin measure of sampling adequacy | | 0.831 |
| Bartlett's Test of sphericity, approx Chi-Square | | 352.391 |
| | df | 36 |
| | Sig | 0.000 |

The KMO measure of sampling adequacy at 0.831 is 'meritorious' according to Kaiser (1974) and being greater than 0.50, is considered very acceptable for satisfactory factor analysis (Norusis 2008). Bartlett's test of sphericity shows the approx Chi-Square is 352.391 with a significance level less than 0.01, it is safe to employ the factor model.

**TABLE 6.4a**

**Exploratory Factor Analysis – Networking Capability**

Rotated Component Matrix

| | Component | |
|---|---|---|
| | 1 | 2 |
| Q17a. Membership of networking groups increses sales | 0.799 | 0.212 |
| Q17b. Being a member of several network groups delivers better results | 0.624 | 0.251 |
| Q17c. I want immediate business from my network membership | -0.006 | 0.906 |
| Q17d. Long term network membership delivers better business results | 0.708 | |
| Q17e. I expect a return on my membership fee within a year | 0.331 | 0.734 |
| Q17f. Being on the committee or board delivers better results | 0.446 | 0.261 |
| Q17g. Being in a network group demands real commitment | 0.593 | 0.051 |
| Q17h. The harder I network the better the business outcomes | 0.770 | 0.321 |
| Q17i. I encourage my colleagues to get involved in networking | 0.771 | 0.100 |

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalisation.

## TABLE 6.4b

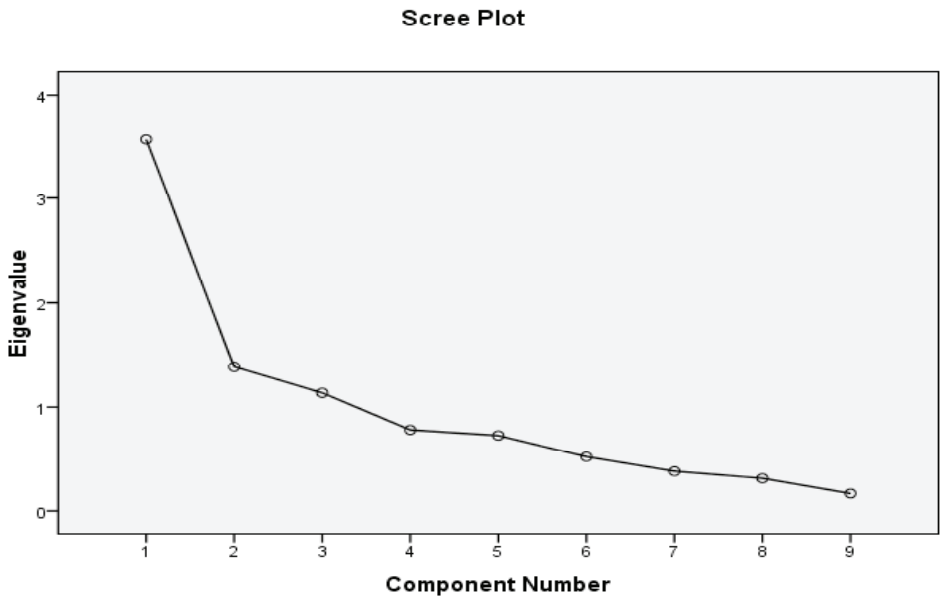
## Exploratory Factor Analysis – Networking Capability

| | Initial Eiganvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|
| Comp | Total | % Variance | Cumulative % | Total | % Variance | Cumulative % | Total | % Variance | Culmulative % |
| 1 | 3.326 | 36.960 | 36.960 | 3.326 | 36.960 | 36.960 | 2.983 | 33.140 | 33.140 |
| 2 | 1.363 | 15.149 | 52.109 | 1.363 | 15.149 | 52.109 | 1.707 | 18.969 | 52.109 |
| 3 | 0.899 | 9.986 | 62.095 | | | | | | |
| 4 | 0.823 | 9.147 | 71.242 | | | | | | |
| 5 | 0.742 | 8.245 | 79.488 | | | | | | |
| 6 | 0.563 | 6.256 | 85.744 | | | | | | |
| 7 | 0.497 | 5.518 | 91.262 | | | | | | |
| 8 | 0.403 | 4.479 | 95.741 | | | | | | |
| 9 | 0.383 | 4.259 | 100.000 | | | | | | |

Two factors shown in the table above account for 52% of the overall variance.

## FIGURE 6.4

## Networking Capability – Scree Plot



***Degree of Embeddedness*** is defined as 'actors dyadic relations and performance within the overall economic and social structure of the network' Holmlund and Törnroos (1997, p.306) and was measured using 6 items developed in the qualitative pilot study.

| Question | Statement measured on a 7 point scale |
|---|---|
| Q17a | Membership of networking groups increases sales |
| Q17b | Being a member of several groups delivers better results |
| Q17d | Long term membership delivers better business results |
| Q17g | Being in a networking group demands real commitment |
| Q17h | The harder I network, the better the business outcomes |
| Q17i | I encourage my colleagues to get involved in networking |

The reliability of this scale was assessed using Cronbach alpha. Consideration was given to dropping (Q17i) but the improvement was marginal and still below 0.8. The Cronbach alpha for this variable with 6 items was 0.791 which is above the desirable limit of 0.7 and therefore considered to be reliable.

Reliability Statistics:

| Chronbach's alpha | Number of items |
|---|---|
| 0.719 | 6 |

Item - Total Statistics

| Question | Scale Mean if item Deleted | Scale variance if item Deleted | Corrected item - Total Correlation | Chronbach's alpha if item Deleted |
|---|---|---|---|---|
| Q17a | 26.41 | 24.074 | 0.658 | 0.730 |
| Q17b | 26.90 | 25.690 | 0.465 | 0.781 |
| Q17d | 26.08 | 26.417 | 0.556 | 0.757 |
| Q17g | 26.16 | 27.733 | 0.430 | 0.784 |
| Q17h | 26.31 | 25.822 | 0.618 | 0.743 |
| Q17i | 26.22 | 25.620 | 0.551 | 0.757 |

The final variable degree of embeddedness was computed as a mean of these 6 items.

***Network Membership*** is described by Misner (2004) as the process of evaluating and joining a network. Membership is based on mutually beneficial business relationships and opportunities. It was measured using 2 items developed from the qualitative pilot study.

| Question | Statement measured on a 7 point scale |
|---|---|
| Q17c | I want immediate business results from my network membership |
| Q17e | I expect a return on my membership within a year |

The Cronbach alpha for this variable was 0.582 which is below the desirable limit of 0.7 and therefore not reliable.

Reliability Statistics:

| Chronbach's alpha | Number of items |
|---|---|
| 0.582 | 2 |

Item - Total Statistics

| Question | Scale Mean if item Deleted | Scale variance if item Deleted | Corrected item - Total Correlation | Chronbach's alpha if item Deleted |
|---|---|---|---|---|
| Q17c | 4.240 | 3.404 | 0.413 | |
| Q17e | 3.430 | 2.630 | 0.413 | |

The results were found to be unreliable and were therefore dropped.

**Network Characteristics**

The survey used 9 items under the broad construct of network characteristics (Q11a-i) as described in the survey instrument in Appendix C. Networks are said to consist of a portfolio of characteristics which facilitate building close relationships based on reciprocal and supportive actions (Easton and Araujo 1994).

KMO and Bartlett's Test

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin measure of sampling adequacy | | 0.915 |
| Bartlett's Test of sphericity, approx Chi-Square | | 838.515 |
| | df | 36.000 |
| | Sig | 0.000 |

The KMO measure of sampling adequacy at 0.915 is 'marvellous'' according to Kaiser (1974) and being greater than 0.50, is considered very acceptable for factor analysis

(Norusis 2008). Bartlett's test shows the approx Chi-Square is 832.515 with a significance level less than 0.01 and therefore it is safe to employ the factor model.

**TABLE 6.5a**

**Exploratory Factor Analysis – Network Characteristics**

Rotated Component Matrix

| | Component |
|---|---|
| | 1 |
| Q11a. I feel very loyal to the networks I belong to | 0.696 |
| Q11b. I have met many business friends through networking | 0.801 |
| Q11c. I prefer to trade with my network contacts | 0.643 |
| Q11d. I look forward to attending networking meeting | 0.787 |
| Q11e. I meet many of my best clients through networking | 0.767 |
| Q11f. I encourage business contacts to join network groups | 0.780 |
| Q11g. I believe networking encourages trust between members | 0.790 |
| Q11h. I like to collaborate on new business with members | 0.760 |
| Q11i. I am mainly interested in getting new business referrals | 0.254 |

Only one component was extracted
The solution cannot be rotated

**TABLE 6.5b**

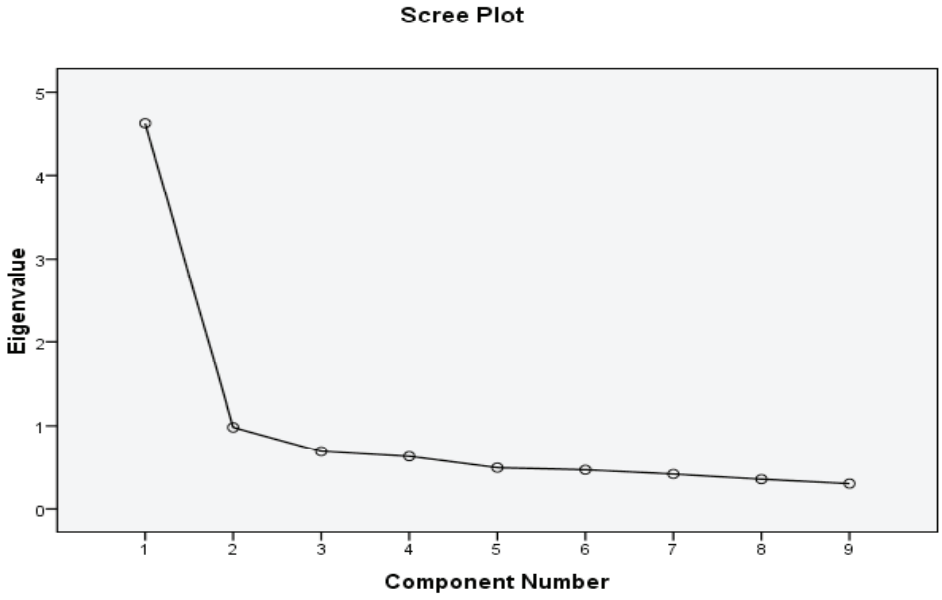
**Exploratory Factor Analysis – Network Characteristics**

| | Initial Eiganvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|
| Comp | Total | % Variance | Cumulative % | Total | % Variance | Cumulative % | Total | % Variance | Culmulative % |
| 1 | 4.621 | 51.348 | 51.348 | 4.621 | 51.348 | 51.348 | | | |
| 2 | 0.984 | 10.928 | 62.276 | | | | | | |
| 3 | 0.698 | 7.751 | 70.027 | | | | | | |
| 4 | 0.637 | 7.077 | 77.105 | | | | | | |
| 5 | 0.499 | 5.544 | 82.649 | | | | | | |
| 6 | 0.474 | 5.265 | 87.914 | | | | | | |
| 7 | 0.422 | 4.690 | 92.604 | | | | | | |
| 8 | 0.360 | 3.992 | 96.602 | | | | | | |
| 9 | 0.306 | 3.398 | 100.00 | | | | | | |

In the final construct group, only one factor was extracted, accounting for 51.348% of the total variance. The ability to build strong relationships is seen as a desirable network characteristic (Ford et al. 2003). The ability of a firm to develop and manage relationships in networks is seen as important (Ritter et al. 2004). In this study it is suggested that it is not the relationship itself but the strength of that relationship that is an important network characteristic to be developed.

**FIGURE 6.5**

**Network Characteristics – Scree Plot**



***Strength of Relationship*** is defined as 'positively valanced influenced strategies, creating high performance dyads that will form the core of the networks in which they are located' Iacobucci (1996, p.36) and was measured using 8 items developed in the qualitative study.

| Question | Statement measured on a 7 point scale |
|---|---|
| Q11a | I feel very loyal to the organisations I belong to |
| Q11b | I have met many business friends through networking |
| Q11c | I prefer to trade with my networking contacts |
| Q11d | I look forward to attending networking meetings |
| Q11e | I meet many of my best clients through networking |
| Q11f | I encourage business contacts to join networks |
| Q11g | I believe networking encourages trust between members |
| Q11h | I like to collaborate with members |

The Cronbach alpha for this variable was 0.889 which is above the desirable limit of 0.7 and is therefore considered reliable.

Reliability Statistics:

| Chronbach's alpha | Number of items |
|---|---|
| 0.889 | 8 |

Item - Total Statistics

| Question | Scale Mean if item Deleted | Scale variance if item Deleted | Corrected item - Total Correlation | Chronbach's alpha if item Deleted |
|---|---|---|---|---|
| Q11a | 35.380 | 68.326 | 0.608 | 0.881 |
| Q11b | 35.230 | 64.893 | 0.726 | 0.869 |
| Q11c | 35.91 | 68.246 | 0.544 | 0.888 |
| Q11d | 35.340 | 69.787 | 0.704 | 0.873 |
| Q11e | 36.220 | 63.531 | 0.683 | 0.874 |
| Q11f | 35.620 | 64.818 | 0..692 | 0.873 |
| Q11g | 35.270 | 66.616 | 0.709 | 0.871 |
| Q11h | 35.520 | 67.572 | 0.672 | 0.875 |

### 6.1.4 Control Variables

A number of generic control variables were developed from the findings in the pilot study, e.g. firm size, sector and location, gender, age and seniority. Importance is placed on the contextual variables that may have an effect on the dependent variable (Norusis 2008, p.91). However, if too many control variables are selected the cross-tabulation can become unwieldy, so attention was focused on particular responses, controlling for networking context, firm size and respondents' profile and business sector, in Section 7 of the main survey questionnaire at Annex C. The contextual control variables are:-

| | |
|---|---|
| Network context | (1) Business sector |
| | (2) Geographic postcode |
| Firm size | (3) Number of employees |

| | |
|---|---|
| | (4) Sales turnover |
| Respondents' profile | (5) Gender |
| | (6) Age |
| | (7) Seniority |
| | (8) Tenure with present employer |

Explanation for the selection of control variables:-

(1) Business sector was based on the standard industry classification of economic activity codes, UKSIC Revision 4 (2007) using a categorical measure developed in (Q30).

(2) Geographical location was measured by UK alpha-numeric postcodes clustered into the 10 main postcodes areas comprising the West Midlands region (Q31).

(3) Firm size was measured using the number of employees in the West Midlands (Q33)

(4) Firm size was also measured by annual sales turnover (£m) as (Q34).

(5) Respondents' profile (gender) (1=male, 2=female) (Q36).

(6) Respondents' profile (age) measured in 4 categories (20-29, 30-39, 40-49, over 50 years (Q37).

(7) Respondents' profile (seniority) measured by seniority in 6 categories; 1=Chairman, 2=Chief Executive, 3=Managing Director, 4=Director, 5=Manager, 6=Executive (Q35).

(8) Respondents' profile (tenure) measured as years with present employer (Q38).

Where the data used in analysing the control variables was not obtained as actual values (e.g. tenure in years) the level of measurement was treated in SPSS v16 as 'scale'. Where the values were measured on a nominal scale but grouped in bands to facilitate easy

completion in the questionnaire, these were converted from nominal to continuous measures, by creating a series of 'dummy' variables (Norusis 2008).

### 6.2 Descriptive Statistics and Correlations

In this section, the distribution of the individual variables and the relationship between pairs of variables will be examined as a prelude to developing a regression model to test the hypotheses. Before describing the key variables under consideration, a summary of the data and respondents' characteristics is provided to contextualise the results to be presented later.

#### 6.2.1 Data Summary

A total of 3013 questionnaires were distributed to the survey sample representing 197,592 registered firms in the West Midlands, employing 2,511,300 staff (Sutherland 2008). Each questionnaire was mailed with a covering letter and a pre-printed envelope.

The geographic area selected for the survey was the West Midlands region in the UK. The survey area corresponded to the postcode areas supported by the regional development agency (AWM). The West Midlands has a population of 5,366,700, representing approximately 9% of the GB total (Sutherland 2008). The sample size of 3013 met the sample frame criteria being approximately 1.5% of the 200,000 registered firms in the region and was considered representative of firms in the West Midlands.

From the total of 282 responses received, after initial checking for complete questionnaires and data entry, a total of 237 (7.9%) complete and useable responses were recorded as being suitable for analysis, with a confidence level of 95% (Bryman and Cramer 2005). A sample size of over 200 is considered adequate for this type of study (Kenny 2011).

Figure 6.6 below shows that responses were received from a wide range of geographic locations representative of the West Midlands, with nearly a quarter from Birmingham postcodes, 17% from Stoke-on-Trent, 14% from Telford and 13% from Shropshire. Responses were also received from Coventry, Wolverhampton, Derby, Dudley, Walsall and Worcester.

**FIGURE 6.6**

**Sample Profile - geographic postcodes**

B = Birmingham

ST = Stoke on Trent

TF = Telford

SY = Shropshire

CV = Coventry

WV = Wolverhampton

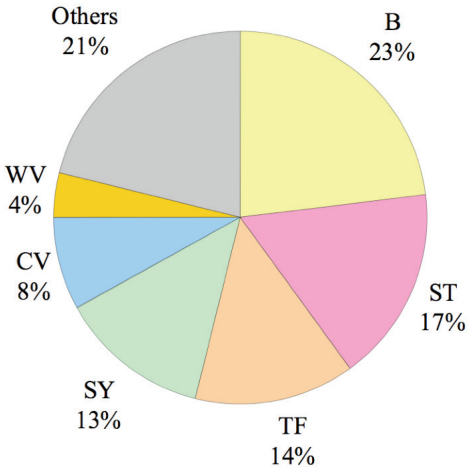


**FIGURE 6.7**

**Sample Profile – respondents' ages**

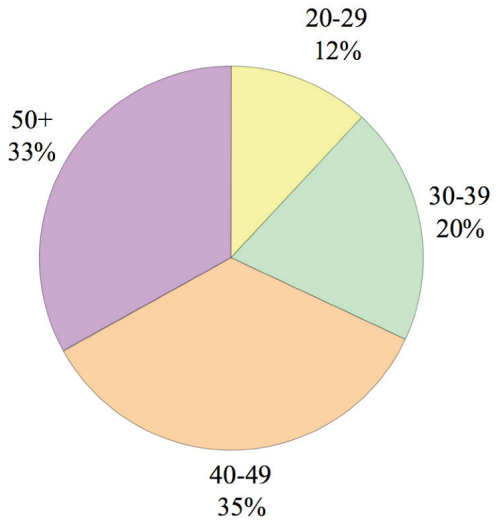
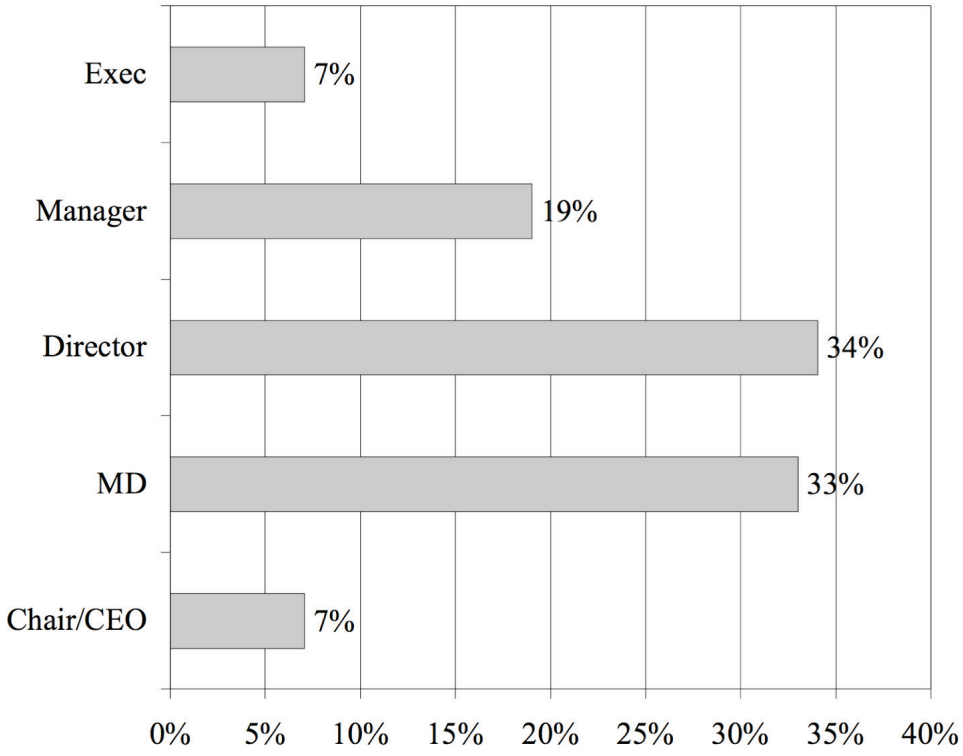



Figure 6.7 shows that two-thirds of respondents were aged 40 or more, but a wide range of ages were represented in the respondents' profile, with 32% being under 40 years old and 12% in the 20-29 years age group. It was also noted that 66% of respondents were male. Whilst there was a bias towards more senior respondents, those interviewed in the pilot study felt that age and gender differences were not a factor in determining success in networking, see Table 5.3. This is supported by the findings of Chell (2000) and Cross & Prusak (2002). Indeed, business networks are generally considered to be democratic organisations where actors share a common desire to achieve business success through networking, irrespective of age, gender or social standing (Dennis 2000).

The majority, 64% of respondents, were from organisations with one site in the West Midlands. 58% were from organisations with a turnover below £4.9m, which is roughly in-line with the firm demographics for the region (Sutherland 2008). Responses were received from a wide range of job titles, the majority being in senior positions, with nearly three-quarters of respondents recorded as being at Director or more senior levels, with a further 19% recorded as managers.

**FIGURE 6.8**

**Sample Profile - job titles**



Overall, respondents had the longest relationship with their Chamber of Commerce, with an average membership approaching 6 years, reflecting the established nature of the Chamber and its popularity within the business community in the region. The organisation with the second longest average membership was Birmingham Forward where the average membership was 3.8 years. Business Network International (BNI) recorded an average of 2.9 years membership. The remaining organisations referred to in this study have a much lower average membership experience of between two and three years. 97% of respondents said they were a member of at least one professional business network, the majority therefore meeting the selection frame criteria. The sample was therefore representative of the target business community, with the respondents judged to be qualified and sufficiently experienced to participate in the survey as 'key informants' (Alreck and Settle 1995). A glossary of the networking organisations represented in this study is attached in Appendix E.

### 6.2.2 Data Quality

Based on the 237 responses received, tests of non-response bias were assessed using proprietary survey analysis software (Merlin), as generally recommended by (Alreck and Settle 1995). The sample profile and characteristics were described in Chapter 4. The results of the survey analysis indicate that there were no significant differences between early and late respondents in terms of variables relating to the individual (position, age, gender, networking experience) or to the respondent's firm relating to (sector, geographic location, size or sales turnover).

Similarly, tests of key-informant competence were also assessed using (Merlin). On average the respondents had been a member of a networking group for 6 years and had been a member of 3 networking groups, which suggests they are experienced and knowledgeable about the issues surrounding business (b2b) networking.

### 6.2.3 Descriptive Statistics and Correlations

The variable means and standard deviations for each construct are presented in Table 6.6.

**TABLE 6.6**

**Mean and Standard Deviation for Key Constructs**

| Construct | N | Mean | S.D. |
|---|---|---|---|
| 1 Network Attractiveness | 237 | 5.090 | 1.084 |
| 2 Network Profile | 237 | 3.413 | 1.307 |
| 3 Planned Networking Behaviour | 237 | 5.724 | 1.262 |
| 4 Networking Intensity | 237 | 3.180 | 2.660 |
| 5 Degree of Embeddedness | 237 | 5.255 | 0.998 |
| 6 Strength of Relationship | 237 | 5.035 | 1.224 |
| 7 Networking Performance | 237 | 4.541 | 2.820 |

The relationship between each of the independent variables and the dependent variable was examined with the Pearson correlation coefficient, providing a measure of the strength of the linear relationship between each variable. Table 6.7 shows both the observed significance and the magnitude of the correlation coefficient. Coefficients that have an observed significance level less than 0.01 are shown with double asterisks (**).

**TABLE 6.7**

**Descriptive Statistics and Inter-correlations**

| Variables | Mean | S.D. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| 1 Network Attractiveness | 5.090 | 1.084 | - | | | | | | |
| 2 Network Profile | 3.413 | 1.307 | 0.363** | - | | | | | |
| 3 Planned Networking Behaviour | 5.724 | 1.262 | 0.362** | 0.086 | - | | | | |
| 4 Networking Intensity | 3.180 | 2.660 | 0.135* | 0.033 | 0.348** | - | | | |
| 5 Degree of Embeddedness | 5.255 | 0.998 | 0.542** | 0.229** | 0.684** | 0.374** | - | | |
| 6 Strength of Relationship | 5.035 | 1.224 | 0.446** | 0.202** | 0.655** | 0.335** | 0.743** | - | |
| 7 Networking Performance | 4.541 | 2.820 | 0.103 | -0.027 | 0.334** | 0.338** | 0.362** | 0.464** | - |

** denotes correlation is significant at the 0.01 level (2-tailed)

In the correlation matrix above, there is a high correlation between planned networking behaviour, networking intensity, degree of embeddedness, strength of relationship and the DV networking performance.

With the exception of network attractiveness and network profile, all the independent variables analysed in pairs in the correlation matrix are highly correlated. In the case when there is a high degree of correlation it is important to check for collinearity between the variables (Norusis 2008). The procedure in Norusis (2008, p271) was followed to check for multicollinearity, reporting for variance inflation factor (VIF) against each of the independent variables in the following section.

### 6.3 Hypotheses Testing

In the first stage of hypotheses testing, OLS bivariate regression was used to test each of the hypotheses against the dependent variable NP. The results of the initial regression in Table 6.7 were examined and each of the independent variables assessed in the model to identify which were predictors of networking performance (Kenny 2011b).

From the OLS bivariate regression at Table 6.8 below, four hypotheses are supported:-

$H_{2a}$ *Planned networking behaviour*

$H_{2d}$ *Networking intensity*

$H_{3a}$ *Degree of embeddedness*

$H_4$ *Strength of relationship*

The four supported hypotheses are reviewed in the following section, together with the two hypotheses $H_{1a}$ *network attractiveness* and $H_{1c}$ *network profile* which were not supported in this regression.

**TABLE 6.8**

**Bivariate Regression Results**

| Model | | Unstandardised Coefficients | | Standard Coefficients | *T*-values | Sig. | |
|---|---|---|---|---|---|---|---|
| Hypotheses | Independent Variables | B | Std Error | Beta | | | |
| $H_{1a}$ | Network attractiveness | 0.269 | 0.173 | 0.103 | 1.552 | 0.122 | |
| $H_{1c}$ | Network profile | -0.059 | 0.144 | -0.027 | -0.406 | 0.685 | |
| $H_{2a}$ | Planned networking behaviour | 0.746 | 0.141 | 0.334 | 5.289 | 0.000 | ** |
| $H_{2d}$ | Networking intensity | 0.358 | 0.067 | 0.338 | 5.357 | 0.000 | ** |
| $H_{3a}$ | Degree of embeddedness | 1.023 | 0.176 | 0.362 | 5.802 | 0.000 | ** |
| $H_4$ | Strength of relationship | 1.069 | 0.137 | 0.464 | 7.821 | 0.000 | ** |

*Levels of significance are *<0.05; **<0.01*

The observed values for the one-sample *T* test show significant results for the four hypotheses indicated with a double asterisk (**) at the 0.01 level, *planned networking behaviour, networking intensity, degree of embeddedness* and *strength of relationship*. The regression results do not support the remaining two hypotheses, *network attractiveness* and *network profile*. In testing the hypotheses, assumptions were made

about the independence of the variables (IV) and their linear relationship with the dependent variable (DV). In an analysis of variance (ANOVA) the sum of the squares explained by the OLS regression and the residual sum of the two values for the regression and the residual, or multiple $R^2$. This confirms that the null hypothesis can be rejected, as there is a linear relationship between the DV and the IVs as the F change statistic close to or at zero is significant. The findings of the OLS regression are summarised in the order the variables are presented in Table 6.8.

***Network attractiveness***

$H_{1a}$ *network attractiveness* has an observed standard coefficient Beta (β) = 0.103, a *T* value = 1.552 and was found not to be significant, so is therefore not a predictor of NP. Network attractiveness was developed as a construct which describes the mutual interest between actors within a network (Ellegaard and Ritter 2008, p.4). It is determined in this study by dimensions of the interaction process and value creation. Network attractiveness has been recognised as problematic due to the interconnectedness of the terms surrounding phrases like network environment and network atmosphere (Holmlund and Törnroos 1997). The concept has been developed by Ritter et al. (2004, p.178) where firms were found to appreciate the relative attractiveness of embedded networks and perceived distinct differences in relative network performance. This was supported by the findings in the pilot study where respondents were able to make a clear distinction between attractive and non-attractive networks, considered important in assessing a network's potential. However, *network attractiveness* is not a significant predictor of NP in this study.

***Network profile***

$H_{1c}$ *network profile* has a standard coefficient Beta (β) = -0.027, a *T* value = -0.046 and was found not to be significant, so is not a predictor of NP. This finding is despite this variable being recognised as a social phenomenon in assessing the relative prestige of a network in Achrol and Kotler (1997) and the relative profile of a network being considered important by the respondents in the pilot study. However, *network profile* was not found to be a significant predictor of NP in this study.

***Planned networking behaviour***

$H_{2a}$ *planned networking behaviour* has a standard coefficient Beta (β) = 0.334, an observed positive *T* value = 5.289 and was found to be significant at the <0.01 level. Planned networking behaviour is an interactive network process, whereby actors seek to develop close relationships on the basis of reciprocal and mutually beneficial actions (Thorelli 1986). The nature and behaviour within the dyadic relationship being characterised by length of relationship, frequency of contact, network competence, commitment, trust, experience and the social bonds which affect networking behaviour. Behaviour conditions the mutual interactions between actors in a network and defines the nature of the dyadic relationship (Ford et al. 2003). *Planned networking behaviour* is considered to be a reliable indicator of networking performance Ritter (2002) and is supported as a predictor of NP in this study.

***Networking intensity***

$H_{2d}$ *networking intensity* has a positive coefficient Beta (β) = 0.358, a *T* value = 5.357 and was found to be significant at the 0.01 level. Networking intensity, being a measurement of the number of networking events attended per calendar month, is therefore an important indicator of networking activity, establishing a linkage between attendance at networking events with the perceived benefits of economic performance and sales turnover related to networking outcomes. The nature and behaviour within the dyadic relationship in the network is characterised by frequency of contact alongside network competence, commitment, trust, experience and the social bonds, which together affect networking behaviour (Ritter 2002). *Networking intensity* is therefore considered to be reliable predictor of NP and is supported in this study.

***Degree of embeddedness***

$H_{3a}$ degree of embeddedness, was found to have a positive standard coefficient Beta (β) = 0.362, an observed *T* value = 5.802 and is significant at the 0.01 level. Degree of embeddedness is defined as being the degree to which an actor is embedded in a network. The concept of embeddedness relates to the linkages of economic action and outcomes, with the actor's dyadic relations affecting the economic dimensions of the network (Holmlund and Tornroos 1997). Degree of embeddedness has been used as a network construct in several research studies examining relationships and outcomes in networks (Andersson and Forsgren 2000; Greve and Salaff 2003; Håkansson and Snehota 1995; Holmlund and Tornroos 1997; Polidoro et al. 2011; Ritter et al. 2004; Young and Wilkinson 2004). There is considerable evidence in the literature suggesting a positive

impact when linking network embeddedness with relationships and networking outcomes. *Degree of embeddedness* was found to be a predictor of NP and is supported in this study.

***Strength of relationship***

$H_4$ *strength of relationship* was found to have a positive standard coefficient Beta (β) = 0.464, an observed *T* value = 7.821 and was found to be significant at the 0.01 level. Therefore, strength of relationship, recognised as being an indicator of relationship performance at a dyad level, has been successfully conceptualised, with the full economic outcomes of a relationship strategy and interaction comparing favourably with the findings of Medlin (2003, p.5) where strength of relationship was found to provide a measure of relationship performance and firms' economic outcomes. Similarly, the findings are reinforced by the evidence of established links between business relationships and performance in networks supported in (Medlin 2003; Ottesen et al. 2004; Ritter 2002; Terziovski 2003). The advantage of an economic focus (sales turnover) is that it offers a direct performance indicator relative to commercial expectations as suggested by (Medlin 2005). This confirms a connection between the strength of relationship in a network, strongly influencing NP and the economic outcomes derived from business networking activity and is supported in this study.

In developing a model of NP, the findings of the OLS bivariate regression presented in Table 6.8 built on the original assumptions in the literature and described in the conceptual framework, were also found to correspond closely to the practitioner findings

in the pilot study (Kenny 2011a). The results closely support the original conceptual model and hypotheses as described above with four of the six hypotheses being supported, as detailed in the table below.

**TABLE 6.9**

**Assessment of Research Hypotheses**

| | Hypotheses | Est +/- | Beta value | *T* value | Assessment | |
|---|---|---|---|---|---|---|
| $H_{1a}$ | Greater network attractiveness will have a positive influence on (NP) | + | 0.103 | 1.552 | + | NS |
| $H_{1c}$ | There is a positive relationship between network profile and (NP) | + | -0.027 | -0.406 | - | NS |
| $H_{2a}$ | Planned networking behaviour will have a positive influence on (NP) | + | 0.334 | 5.289 | + | S* |
| $H_{2d}$ | There is a positive relationship between networking intensity and (NP) | + | 0.338 | 5.375 | + | S* |
| $H_{3a}$ | There is a positive relationship between the degree of embeddedness and (NP) | + | 0.362 | 5.357 | + | S* |
| $H_4$ | Strength of relationships in networks will have a positive influence on (NP) | + | 0.464 | 7.821 | + | S* |

*Note: + indicates a positive relationship, - indicates a negative relationship, NS indicates the hypothesis is not supported, S* indicates the hypothesis is supported.*

The findings from the first stage of hypotheses testing presented above with four of the six hypotheses supported, provide a set of results suitable for further examination in developing and testing a model of networking performance using OLS multiple regression.

In the second stage of testing a model of NP, multiple regression is used to estimate the model fit, including the control variable regressed against the dependent variable NP. The variance inflation factor (VIF) is shown in the last column.

**TABLE 6.10**

**Regression Model A – relationship between variables**

| **Variables** | **Networking Performance** | | |
|---|---|---|---|
| Standardised Beta Coefficients | Model 1 (Controls only) | Model 2 (Controls plus IV) | Model 2 VIF |
| **Firm & respondent characteristics** | | | |
| **Firm size:** | | | |
| Employees | 0.490 | 0.055 | 1.178 |
| Turnover £1-4.9m | -0.160* | -0.110 | 1.191 |
| Turnover £5-24.9m | -0.119 | -0.064 | 1.317 |
| Turnover £25m+ | -0.258** | -0.229** | 1.533 |
| **Respondents' Profile:** | | | |
| Age 30-39 | 0.095 | 0.047 | 2.266 |
| Age40-49 | 0.146 | 0.025 | 3.008 |
| Age 50+ | 0.025 | -0.043 | 3.267 |
| Seniority: MD/CEO | 0.012 | -0.090 | 4.124 |
| Seniority: Director | -0.163 | -0.214 | 4.528 |
| Seniority: Manager/Exec | 0.172 | 0.202 | 4.795 |
| Tenure with employer | -0.137 | 0.033 | 1.307 |
| | | | |
| **Networking Performance predictors** | | | |
| Network attractiveness | | -0.100 | 1.639 |
| Network profile | | -0.062 | 1.246 |
| Planned network behaviour | | 0.054 | 2.359 |
| Networking intensity | | 0.143* | 1.288 |
| Degree of embeddedness | | 0.033 | 3.159 |
| Strength of relationship | | 0.366** | 2.662 |
| | | | |
| R | 0.412 | 0.594 | |
| R squared | 0.170 | 0.352 | |
| Adjusted R squared | 0.127 | 0.299 | |
| F Change | 3.958** | 9.722** | |

*Levels of significance are *<0.05; **<0.01*

In developing a model of NP at Table 6.10 Model 1, the control variables relating to firm size and respondents' profile were regressed against the DV using multiple linear regression. From the results, turnover £1-4.9m has a negative standard coefficient Beta (β) = -0.490 and was found to be significant at the <0.05 level. Similarly, turnover >£25m has a standard coefficient Beta (β) = -0.258 and was found to be significant at the <0.01 level. This suggests that as a firm's turnover increases it has a negative influence as a control variable on NP. However, the findings were inconclusive as a significant effect was detected for both turnover at £1-4.9m and turnover >£25m but not for turnover at £5-24.9m. Finally for Model 1, the Adjusted R squared value = 0.127, explaining approximately 13% of variance for the contextual control variables.

Turning to Model 2 at Table 6.10, the control variables from Model 1 were regressed together with the independent variables *network attractiveness, network profile, planned networking behaviour, networking intensity, degree of embeddedness* and *strength of relationship* against the DV. In this model, only turnover >£25m with a standardised negative coefficient Beta (β) = -0.229 was shown to be significant at the <0.01 level. However, as discussed above, turnover >£25m was insufficiently distinguished from the other sales turnover value groups for it to be considered to have a reliable effect as a control variable. In Model 2, two independent variables were found to have a significant influence on NP. *Networking intensity* has a standardised coefficient Beta (β) = 0.143 as is significant at the <0.05 level. *Strength of relationship* has a standardised coefficient Beta (β) = 0.366 and is significant at the <0.01 level. The Adjusted R squared value =

0.299, explaining 30% of the variance when the IVs are included in the regression. The *F*-Change value increases from 3.958 in Model 1 to 9.722 in Model 2 and is therefore significant. The model was then run with the significant control variable at Table 6.11.

**TABLE 6.11**

**Regression Model B– relationship between variables**

| **Variables** | **Networking Performance** | | |
|---|---|---|---|
| Standardised Beta Coefficients | Model 1 (Controls only) | Model 3 (Controls plus IV) | Model 3 VIF |
| **Firm & respondent characteristics** | | | |
| **Firm size:** | | | |
| Employees | 0.490 | | |
| Turnover £1-4.9m | -0.160* | -0.098 | 1.067 |
| Turnover £5-24.9m | -0.119 | | |
| Turnover £25m+ | -0.258** | -0.226** | 1.068 |
| **Respondents' Profile:** | | | |
| Age 30-39 | 0.095 | | |
| Age40-49 | 0.146 | | |
| Age 50+ | 0.025 | | |
| Seniority: MD/CEO | 0.012 | | |
| Seniority: Director | -0.163 | | |
| Seniority: Manager/Exec | 0.172 | | |
| Tenure with employer | -0.137 | | |
| | | | |
| **Networking Performance predictors** | | | |
| Network attractiveness | | -0.081 | 1.578 |
| Network profile | | -0.083 | 1.173 |
| Planned network behaviour | | 0.023 | 2.136 |
| Networking intensity | | 0.175* | 1.206 |
| Degree of embeddedness | | 0.031 | 3.106 |
| Strength of relationship | | 0.399** | 2.558 |
| | | | |
| R | 0.412 | 0.569 | |
| R squared | 0.170 | 0.324 | |
| Adjusted R squared | 0.127 | 0.299 | |
| F Change | 3.958** | 12.957** | |

*Levels of significance are *<0.05; **<0.01*

In the process to refine the model of NP, the significant control variables identified in Model 1 turnover £1-4.9m and turnover >£25m were regressed with the independent variables *network attractiveness, network profile, planned networking behaviour, networking intensity, degree of embeddedness* and *strength of relationship* against the DV, as shown in Table 6.11.

In Model 3, only turnover >£25m with a standard negative coefficient Beta (β) = -0.226 was to prove significant at the <0.01 level. Two independent variables were found to have a significant influence on NP. *Networking intensity* has a standard coefficient Beta (β) = 0.175 as is significant at the <0.05 level. *Strength of relationship* has a standard coefficient Beta (β) = 0.399 and is significant at the <0.01 level. The adjusted R squared value remained the same in Model 3 at 0.299, accounting for approximately 30% of the model fit. The *F*-Change value increases from 3.958 in Model 1 to 12.957 in Model 3 and is significant.

In analysing the results, firm size, when assessed as a control variable was found to have a negative Beta (β) coefficient in Models 2 and 3, suggesting that smaller firms were more likely to benefit from participating in business networking activities, a view supported by a number of researchers (Carson et al. 1995; O'Donnell and Cummins 1999; Ottesen et al. 2004). Firm size by measured sales turnover has been used as a control variable in Medlin (2003) where it was found to have a negative coefficient on relationship performance. However, as a control variable, firm size measured by sales

turnover proved inconclusive and was dropped from the model. Further research would be required to refine the use of turnover values in assessing their influence on NP.

Obtaining information on individual firms' sales turnover has provided an important measure in predicting performance in networks Medlin (2005) and is considered significant when assessing NP being the percentage of sales derived from networking activities.

From the analysis, it was also evident that although there was a relationship between the degree of embeddedness and NP, where the standard coefficient Beta ($\beta$) = 0.031 but which was not significant in the regression at Model 3. On investigation, degree of embeddedness was shown to have a variance inflation factor (VIF) value of 3.106 and being above 3, may be collinear with other variables. Multicollinearity checks were performed on all the variables in modelling NP using multiple linear regression Norusis (2008), but only degree of embeddedness was shown to have a VIF value above 3. The variance inflation factor (VIF) is defined by Norusis (2008) as the reciprocal of the tolerance, measuring the increases of the coefficients due to the correlations of the independent variables.

The relationship between degree of embeddedness and NP suggested that although not significant in the model, it may have an interaction effect between the indicators of networking performance and the DV. The degree to which an actor is embedded in a network relates to the linkages of economic action and outcomes, the actors' dyadic

relations and the overall structural, economic and social dimensions of the network (Holmlund and Törnroos 1997). The importance of 'embeddedness' in actor network relations is recognised by Häkensson (1987) with the extent of its influence on networking outcomes dependent on the nature of the relationships between actor firms and their commitment to create positive outcomes. Degree of embeddedness has been used as a network construct in several research studies examining relationships and outcomes in networks (Andersson and Forsgren 2000; Greve and Salaff 2003; Håkansson and Snehota 1995; Holmlund and Törnroos 1997; Polidoro et al. 2011; Ritter et al. 2004; Young and Wilkinson 2004). There is considerable evidence in the literature suggesting a positive influence when linking network embeddedness and relationships with networking outcomes and NP.

In summarising this section and developing a model of NP, the findings of the first stage OLS bivariate regression presented in Table 6.9 built on the original assumptions in the literature and described in the conceptual framework, were found to correspond closely to the practitioner findings in the pilot study. Four of the hypotheses were supported in the results. In the second stage of developing a model of NP, multiple regression was used to estimate the model fit, with the contextual control variables regressed against the dependent variable NP and then regressed against the independent variables in Model 2. The model was improved by retaining the significant control variables in Model 3 and regressing these with the independent variables. The Adjusted R squared value increased to 0.299 (approximately 30% of the variance) with the *F*-Change value increasing

3.998** to 12.957**. In addition, the influence of degree of embeddedness was identified as having a possible interaction effect is discussed later in the following section.

### 6.4 Further Analysis – interaction effect

In the process of analysing the data and producing findings from the results, further analysis was required to test for possible interaction effects, as described in the previous section. It is widely recognised that a quantitative variable may have a moderating or mediating effect on the relationship between two other quantitative variables and that it is necessary to test for any significant interaction effects between the variables (Norusis 2008). The moderating function of an intermediate or third variable, divides the focal independent variable (IV) into subgroups to establish its maximum effect on the dependent variable (DV). Alternatively, the mediating function of an IV can be measured for its mediating influence on the DV (Baron and Kenny 1986).

From the list of independent variables, degree of embeddedness as it is relates to the linkages of economic action and networking outcomes Holmlund and Törnroos (1997, p.306), was supported in the regression in Table 6.9. However, it was found to be not significant in the regression model in Table 6.11. As discussed, degree of embeddedness was also thought to have a possible interaction effect on the dependent variable, which is examined following the process outlined in Baron and Kenny p.174 (1986), with the findings presented in the following section.

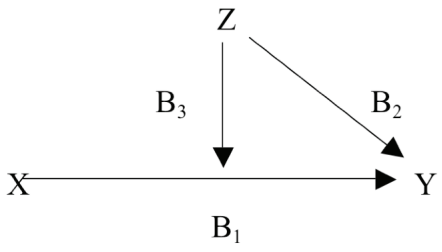
### 6.4.1 Tests for Interaction Effect: Moderation

The first interaction test was to investigate whether *degree of embeddedness* may have a moderating effect on the independent variables, where the dependent variable is a measure of the sales turnover generated by networking activity. A key part of moderation is the measurement of the X to Y causal relationship and the value of the $B_1$ causal path, where Z is the moderating variable as described in Figure 6.9 below (Baron and Kenny 1986).

**FIGURE 6.9**

**Measuring the Moderation Effect**

X= predictor variables (IV)
Z= moderator variable
Y= dependent variable (NP)




A method for assessing the interaction effect of a moderating variable is to use OLS regression using the product of mean centred variables where the effect of the calculated regression coefficient on the dependent variable may prove significant (Cramer 2003; Jaccard et al. 1990),

$$Y=Z_1(3_a-3_{a1})+B_1(2_a-2_{a1})+B_1(2_d-2_{d1})+B_1(4_a-4_{a1})$$

Where Y = dependent variable, $Z_1$ = the moderating variable, and $B_1$ ($2_{a1} + 2_{d1} + 4_{a1}$) are the mean centred independent variables. The mean centred (MC) variables and OLS regression values were computed in SPSSv16 to test for moderation.

The transformation of mean centred predictor variables is commonly used in the process to compute the interaction effect of a moderating variable and alleviating collinearity problems in moderated regression models (Jaccard et al. 1990; Lubinski and Humphreys 1990). Most researchers agreeing that the effect of mean centering on collinearity is negligible (Echambadi and Hess 2007; Hayes 2009; Irwin and McClelland 2001).

Mean centred independent variables regressed in Table 6.12 to check for moderation:-

Planned networking behaviour (MC1)=(PNB-5.724)x(NE-5.255)

Networking intensity (MC2)=(NI-3.180)x(NE-5.255)

Strength of relationship (MC3=(NR-5.035)x(NE-5.255)

**TABLE 6.12**

**OLS Interaction Results for Moderation**

| Coefficients | | | | | | |
|---|---|---|---|---|---|---|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | Variables | | Std. Error | Beta | | |
| 1 | (Constant) | 4.580 | 0.219 | | 20.873 | 0.000 |
| | Planned Networking Behaviour | 0.012 | 0.082 | 0.103 | 1.088 | 0.278 |
| | Networking Intensity | 0.200 | 0.169 | 0.012 | 0.151 | 0.880 |
| | Strength of Relationship | -0.152 | 0.139 | -0.110 | -1.183 | 0.238 |

a. Dependent Variable: Q7 SQRT Percentage of turnover generated by networking ?

Based on the emerging model of networking performance, the additive (or main effects) of three, mean centred independent (predictor) variables, *planned network behaviour*, *networking intensity*, *strength of relationship* and the moderating variable *degree of embeddedness* on the dependent variable (Y), has been transformed and interpreted using

OLS multiple regression in Table 6.12 as described by Jaccard et al. (1990) and Lubinski and Humphreys (1990). The Beta (β) coefficient value of the mean centred moderating variables $B_1$ (planned networking behaviour, networking intensity, strength of relationship) is shown above in Table 6.12. $B_2$ has a positive effect with a Beta coefficient (β) = 0.045 on (Y) The moderating effect of degree of embeddedness $B_3$ on X-Y was not found to be significant. Therefore the findings suggest degree of embeddedness has no moderating effect on NP.

### 6.4.2 Tests for Interaction Effect: Mediation

The next stage in this further analysis was to examine degree of embeddedness for a possible interaction effect with a mediating influence on the independent variables and the dependent variable, as suggested by Baron and Kenny (1986). The method adopted to test for mediation or causal effect is the four step process described by Kenny (2009). The first two steps in the process using OLS regression are shown in Figure 6.10 below.

**FIGURE 6.10**

**Measuring the Mediation Effect**

X= predictor variables (IV)
M= mediator variable (NE)
Y= dependent variable (NP)

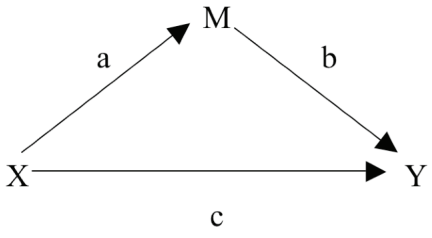


**Table 6.13**

**Mediating Tests – Step 1 & 2**

| Predictor variables (IV) | Step 1 (DV) Degree of embeddedness | Step 2 (DV) Networking performance |
|---|---|---|
| X | a | c |
| Planned Networking Behaviour | 0.684** | 0.334** |
| Adjusted R Squared | 0.466 | 0.107 |
| F-Change | 196.345** | 27.969** |
| Networking Intensity | 0.374** | 0.338** |
| Adjusted R Squared | 0.136 | 0.11 |
| F-Change | 36,243** | 28.700** |
| Strength of Relationship | 0.743** | 0.464** |
| Adjusted R Squared | 0.550 | 0.212 |
| F-Change | 274.781** | 61.167** |

Beta standard coefficients *<0.05 **<0.01

Step 1: Each of the predictor variables X was regressed in turn against the mediator variable degree of embeddedness M to test the coefficients in causal path a. The resultant Beta (β) standard coefficients and levels of significance, with the values for adjusted R squared and the *F*-Change values are shown in Table 6.13, column (a) for Step 1 (Kenny 2009). For planned networking behaviour Beta (β) = 0.684 was significant at the <0.01 level. Networking intensity Beta (β) = 0.374 was significant at the <0.01 level and strength of relationship Beta (β) = 0.743 was also significant at the <0.01 level. The independent variables were all found to positively affect the mediator variable M, degree of embeddedness.

Step 2: Each of the predictor variables X were regressed in turn against the dependent variable Y, to test the coefficient of the path (c). The resultant standard coefficients were

all found to have significant β values at the <0.01 level. Planned network behaviour Beta (β) = 0.334 and was significant at the <0.01 level. Networking intensity Beta (β) = 0.338 and was significant at the <0.01 level. Strength of relationship Beta (β) = 0.464 and was also significant at the <0.01 level. The adjusted R squared values were calculated and the *F*-Change values were all significant at the <0.01 level. The independent variables were found to all independently affect the dependent variable Y. The findings are as shown in column (c) in Table 6.13.

**Table 6.14**

**Mediation Test – Step 3**

| Predictor variables (IV) | Step 3<br>(DV) Networking performance |
|---|---|
| X | b |
| Planned Networking Behaviour | 0.162 |
| Degree of Embeddedness | 0.251** |
| Adjusted R Squared | 1.145 |
| F-Change | 18.835** |
| Networking Intensity | 0.235** |
| Degree of Embeddedness | 0.274** |
| Adjusted R Squared | 0.171 |
| F-Change | 24.154** |
| Strength of Relationship | 0.435** |
| Degree of Embeddedness | 0.039 |
| Adjusted R Squared | 0.209 |
| F-Change | 30.569** |
| Degree of Embeddedness | 0.362** |
| Adjusted R Squared | 0.127 |
| F-Change | 33.662** |

Beta standard coefficients *<0.05 **<0.01

Step 3: To test the effect of the mediator variable M on the outcome variable Y, it is not sufficient to simply correlate the mediator and the outcome, as both are caused by the initial variable X (Baron and Kenny 1986). Therefore in Step 3, each of the independent variables at X, were regressed with the mediator variable M degree of embeddedness, against the dependent variable Y networking performance, using multiple linear regression.

In the first regression, planned network behaviour had a positive Beta coefficient (β) = 0.162 and was significant at the <0.01 level, with degree of embeddedness having a positive Beta coefficient where (β) = 0.251 and was significant at the <0.01 level, demonstrating that degree of embeddedness had a mediating effect between planned networking behaviour and NP.

In the second regression, networking intensity had a positive Beta coefficient where (β) = 0.274 and was significant at the <0.01 level, with degree of embeddedness having a positive Beta coefficient where (β) = 0.362 and was significant at the <0.01 level, demonstrating that degree of embeddedness had a mediating effect between networking intensity and NP.

In the third regression, strength of relationship had a positive Beta coefficient where (β) = 0.435 and was significant at the <0.01 level but degree of embeddedness with a positive Beta coefficient (β) = 0.039 was not significant. Therefore degree of embeddedness has no mediating effect between strength of relationship and NP.

According to Kenny (2009) the initial variable X must be controlled in establishing the effect of the mediator on the outcome and should be less in Step 3 than the β coefficient value in Step 2. From the results for causal path b in Step 3 shown in Table 6.14, the mediating variable degree of embeddedness is found to have a mediating effect on two of the three independent variables:-

Planned networking behaviour in path (b) $\beta = 0.162$ i.e. smaller than ($\beta = 0.334$ in path c)
Networking intensity in path b $\beta = 0.235$ i.e. smaller than ($\beta = 0.338$ in path c)
However, strength of relationship in path (b) is not mediated by degree of embeddedness.

With the coefficient for path (b) β value less than the respective coefficient values for the predictor variables X measured for planned networking business and networking intensity in path c, the mediating variable M is judged to meet the criteria for mediation following Step 3 of the causal step approach (Baron and Kenny 1986).

Step 4: To establish the mediator variable M completely mediates the X-Y relationship, the effect of X and Y controlling for M path (c) should be zero. However, from the regression results in Table 14 above, none of the values reach zero. Therefore, according to Kenny p.3 (2009), as the criteria for Step 4 are not completely met, only a partial mediation (not complete mediation) effect of M can be claimed. The amount of mediation is called the 'indirect effect' in Baron and Kenny 1986) and defined as the reduction of the effect of the initial variable X on the outcome Y via causal path (c).

In summary, degree of embeddedness has a mediating effect on the relationship between planned networking behaviour on networking performance, and networking intensity on networking performance. This is not a unique situation, as according to Garnett et al. (2008), in practice mediator effects are often not mutually exclusive from either a conceptual or empirical perspective. This applies to this analysis, where degree of embeddedness might mediate the relationship between networking behaviour and networking performance, with patterns of planned networking behaviour being influenced by the degree to which the actor is embedded in the network, which in-turn would affect the performance of the network (NP). At the same time, degree of embeddedness may have a mediating effect between aspects of networking intensity and networking performance, The mediation effect may be apparent at the same time that degree of embeddedness may affect other aspects of networking performance. The interaction effect of degree of embeddedness on the model of networking performance will be examined further in the following chapter.

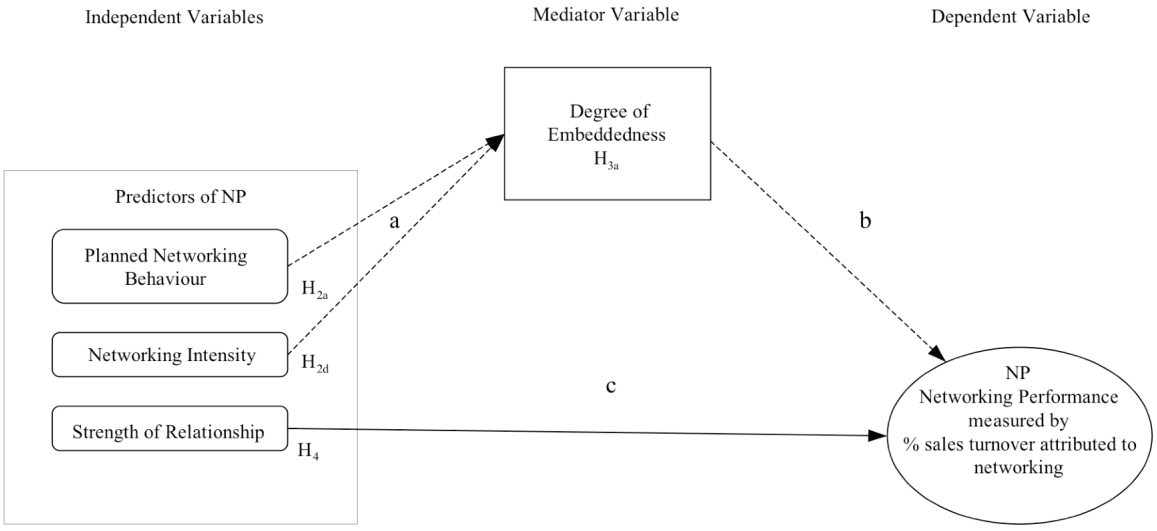
### 6.5 Model Presentation

In this chapter, an assessment of hypotheses is presented at Table 6.9 with four of the six independent variables and hypotheses being supported in the results. Then a model of networking performance was developed and tested in Table 6.11. Finally, in tests for interaction effects, it was established that degree of embeddedness has a partial mediation effect on the relationship between the independent variables; planned networking behaviour and networking intensity and the dependent variable, networking performance.

As a consequence of these findings, a model of networking performance is presented showing the relationship between the three independent variables, planned networking performance, networking intensity and strength of relationship on NP.

**FIGURE 6.11**

**A model of Networking Performance**




In the model of networking performance presented at Figure 6.11, *degree of embeddedness* is shown to have a partial mediation effect on the relationship between each of the independent variables at path (a) *planned networking performance* and *networking intensity* on the dependent variable *networking performance* at path (b). The relationship between the (IVs) *planned networking performance, networking intensity* and *strength of relationship* and the (DV) *networking performance* is shown at path (c). The significance of this parsimonious model is discussed in the following section.

## 6.6 Theoretical Implications

In this chapter, quantitative analysis of networking performance within a networking framework, has provided the opportunity to describe the factors contributing to firms' networking performance in a business networking environment, to examine the dyadic network constructs and to enhance the understanding of networking performance measures.

From the assessment of research hypotheses in Table 6.9, four of the six hypotheses were supported, *planned networking performance, networking intensity, degree of embeddedness* and *strength of relationship*. In addition, degree of embeddedness was found to have a partial mediating effect between *planned networking performance* and *networking intensity* and NP.

Despite network attractiveness being a desirable quality from a firm's focal perspective and it being recognised a pre-requisite to social interaction Granovetter (1973), network attractiveness was not supported as a predictor of NP in this study. The concept of network attractiveness was recognised by respondents in the pilot study as being critical in their perception of networking group strengths. However, this view was not supported by the respondents to the main survey, where the size of the networking group and networking venues appear to be correlated with network profile in the model but this was not supported in the analysis.

Although the hypothesis based on network profile was not supported in the regression results, the concept was found significant at the 0.01 level in Pearson 2-tailed correlation in Table 6.6. However, network profile did prove to be a good measure when the Cronbach's alpha coefficients were calculated for 3 or more items with a score of 0.717, which compares favourably with the other 3 or more item scores, with alpha scores approaching 1.

The influence of planned networking behaviour as a predictor of networking performance is supported and draws on the findings of Medlin (2003), Ottesen et al. (2004), Ritter (2002), Terziovski (2003). Networking behaviour is presented as an interactive process where actors develop close relationships on the basis of reciprocal and mutually beneficial acts. Network behaviour is also recognised as a reliable indicator of network performance (Thorelli 1986). This view is supported by Anderson and Håkansson (1994) who found that networking relationships can be heavily influenced by the perceived networking behaviour of actors in the dyadic structure of the network. In a separate study, patterns of network behaviour were measured against the perception of network performance by Achrol and Kotler (1997), who found that networking behaviour conveyed a sense of importance and competence in the network exchange.

Planned networking behaviour $H_{2a}$ is supported by the regression model in Table 6.8 where ß = 0.334, $T$ = 5.289 and is significant at the <0.01. Therefore it is argued that there is a strong relationship between planned networking behaviour and networking performance and from the previous evidence networking behaviour was found to be a

predictor of networking performance. Support for this view is also found in the reliability test where Cronbach's alpha score for networking behaviour = 0.890 which is considered good. This suggests a strong correlation between the observed score and the sample and is therefore a good estimate of the hypothetical true alpha value of networking behaviour.

$H_{2d}$ networking intensity, with ß = 0.338, $T$ = 5.357 is significant at the <0.01 level and is supported in the regression model at Table 6.8, confirming that hypothesis based on the greater the number of networking meetings attended each month, the better the business outcomes, measured as networking performance. The term networking intensity is used to describe the networking behaviour of actors within a dyadic networking framework where frequency of networking contact within a formal networking meeting is understood to influence the actors' perception of networking performance. The positive result for networking intensity is closely associated with networking behaviour, where it is established that dyadic business relationships are influenced by the perceived behaviour of the actors, bounded by the networking environment, networking rules, networking traditions and relationships, seen as a conditioning process and likely to influence networking performance (Anderson and Håkansson 1994).

The degree of embeddedness in networks is widely recognised as a predictor of networking performance, with ß = 0.362, $T$ = 5.802 and was significant at the <0.01 level. However, on investigation, degree of embeddedness was found to have a high variance inflation factor (VIF) value at 3.106, where a maximum value of 3 is advised (Norusis

2008). The problem with variables having a high correlation with other variables is that collinear variables can provide similar information. On reflection, it could be argued that the way the measure was structured in the questionnaire may have influenced the result. However, degree of embeddedness was proven to have a partial mediating effect on networking performance where the effect of the calculated regression coefficient on the dependent variable was to prove significant. This is similar to the findings of Holmlund and Törnroos (1997) where they found that the network embeddeddness being the degree to which relationships are embedded in a network and the benefits of the resulting social bonds have a positive impact on the networking exchanges they encompass. This is supported by the findings of Medlin (2003) where there was a positive relationship between networking embeddedness and the perceived economic benefits and therefore the value of the network outcomes as the degree of embeddedness increases. It should also be noted from the test of reliability has a positive Cronbach's alpha score of 0.719 for 6 items, confirming that networking embeddedness is a good measure.

Strength of relationship $H_4$ was found to have a strong positive effect on networking performance and the hypothesis is supported with ß = 0.464, $T = 7.821$ and is significant at the 0.01 level in the regression model at Table 6.8. Ritter (2002) established that it is not the dyadic relationship alone but rather the strength of that relationship that was more likely to have a positive effect on a firm's networking performance and competitive strength. The findings of this research support the importance placed on strength of relationship identified by Achrol and Kotler (1999) and Anderson and Håkansson (1994).

Strength of relationship also proved a strong measure in the reliability test with a Cronbach's alpha score of 0.889 for 8 items.

The only significant controlling variable was based on sales turnover, measured as; turnover £1-4.9m, turnover £5-24.9m and turnover <£25m. The result proved that the smaller the firm (measured in sales turnover) the greater the percentage sales turnover is attributed to networking activity and hence the predicted value for networking performance. This is supported by the result of the regression model at Table 6.10 where turnover >£25m where Beta (β) = -0.226, is significant at the <0.01 level. However, the similarity between the turnover values precluded their use as a controlling variable in this study.

The other potential control variables based on firm size measured by number of employees and the respondents' profile based on age, seniority and tenure in the role, were not found to have any significance as controlling variables.

The dependent variable, networking performance measured by the percentage of sales attributed to networking activities, was the evolved measure of NP. Although economic performance is recognised to be an important factor in determining performance in networks Medlin (2003) quantifying the result in terms of sales turnover attributed to networking activities as a percentage of overall sales is a significant finding of this research.

The developed model of networking performance was presented in Table 6.11. The model fit based on the adjusted R squared value of 0.299, accounts for approximately 30% of the variance in measuring NP. This is considered an average fit in assessing this type of business model (Kenny 2011a). The *F*-Changes movement from 3.958 in Model 1 to 12.957 in model 3 in Table 6.11 is significant and a good indicator as how this model might perform in a similar study of business to business networking.

## 6.7 Summary & Conclusions

In this chapter the results from the main quantitative survey were presented with the objective of developing and testing a model of NP. This built on the results from the qualitative pilot study presented in Chapter 5, where the findings were used to refine the predictors of NP in the conceptual model in Figure 5.3 and confirmed the statement and assessment of hypotheses at Table 6.9.

The hypotheses were tested using a range of statistical techniques. From the data, a correlation matrix was used to extract the multi item measures using exploratory factor analysis in SPSS v16. The total variance associated with each factor was assessed and compared with the scree plot for each construct. To assist the interpretation of the correlation pattern for the analysis of the selected variables, varimax rotation with Kaiser Normalisation was used to rotate the factor loadings, with the factors having the highest loading being minimised and the largest coefficients shown as higher compared to the smaller coefficients in each of constructs.

The data were analysed and the hypotheses were tested using OLS regression to produce a model of NP. Table 6.10 summarised the results from the regression analysis, with four hypotheses ($H_{2a}$, $H_{2d}$ $H_{3a}$ and $H_4$) of the initial six hypotheses being supported. In addition $H_{3a}$ degree of embeddedness was found to be significant and to have a partial mediating effect between planned networking performance and networking intensity on the dependent variable (NP). Organisation size measured as sales turnover was also found to be significant and to have a negative relationship with the DV but was not reliable enough to use as a control variable in this study. A model of Networking Performance was developed as shown in Figure 6.12. The results were found to closely support the findings from the initial depth interviews and the original conceptual model. These findings and the resultant model of Networking Performance will be discussed in the following chapter.

# Chapter 7

# Discussion

**Chapter Content**



## 7.0 Introduction

The purpose of this chapter is to reflect on the objective of this research, the significance and value of this study and the implications of the findings presented in Chapters 5 and 6. The proposed model of Networking Performance is explained and elaborated upon, with discussion as to its contribution from both a theoretical and practical perspective. Finally,

this chapter concludes with a reflection on the overall research process and a summary of the discussion points. The conclusions to this research with the main findings and the contribution to knowledge are presented in Chapter 8, together with limitations and recommendations for future research.

### 7.1 The purpose of this research

The primary objective of this research was described in Chapter 1 as follows:-

***To develop and test a model of networking performance, identifying the factors linking network theory and positive business outcomes leading to an increase in sales turnover.***

The emerging question on networking performance coincided with the increasing popularity of business networks and networking as a focus for academic study (Wilkinson 2001). The study of networks and networking within a business environment has been popularised by researchers following in the networks as markets tradition (Ford et al. 2003). Economic policy advisors have been urged by academic researchers to facilitate and promote networks and networking to enhance business performance (Birley 1985; Chell 2000; Ottesen et al. 2004). Parkhe et al. (2006, p.560) suggest that "networks are quite literally reshaping global business architecture" but add that "present diverse network approaches represent loosely connected sets of concepts, principles and analysis methods rather than a more rigorous deductive system". Researchers have called for a more robust approach to measuring networking outcomes and marketing productivity in the search for greater management accountability (Seggie et al 2007). In an exemplary review of the market as a network approach, Snehota (2003) called for empirical research

to be paralleled by more intense effort to network theory development and more systematic testing of hypotheses. The growing academic interest in networks and the call for more rigorous testing of network theory, suggested that my approach to researching the antecedents of networking performance was both timely and apposite.

The research objective was to investigate the linkages between networking activity and networking performance, with the aim of developing and testing a model of networking performance (NP). This was the initial vision for the study and has remained the primary focus for the research throughout the life of the project. Developing an economic measure for NP based on sales turnover generated by networking activity is considered to be a major contribution of this research, as few researchers have sought to operationalise a measure of networking performance.

The extensive review of literature in Chapter 2 confirmed the depth and significance of the networks and networking theory domain. The continuing academic research programme encouraged by the IMP group has ensured that the emerging network themes, for example understanding the importance of relationships in networks, have continued to influence the development of this thesis.

### 7.2 Summary of Research Findings

The purpose of this section is to discuss the research findings as a result of conducting a two-stage, hybrid qualitative and quantitative research process. The overall research

process was designed to develop and test a parsimonious model of networking performance.

In reviewing the research findings and presenting the theoretical implications together with the implications for managers and policy makers, this research has identified three major implications for theory, a further three implications for managers and a finally three implications for policy makers and business advisors, summarised as follows:-

### 7.2.1 Theoretical implications

1. Networking Performance is the dependent variable used in this study. Developing an economic measure of business networking activity based on the financial contribution to sales turnover is an important contribution to knowledge from an operational perspective.
2. This study develops and tests a model of Networking Performance, showing *strength of relationship* to be a direct predictor of NP. The model also shows the importance of *planned networking behaviour* and *networking intensity* as predictors of NP with *degree of embeddedness* having a mediating effect in determining NP.
3. This research makes a contribution to the literature by extending the study of relationships in networks and suggests that NP is an outcome of networking activity from a marketing perspective.

The overall theoretical implications and relationships between the researched constructs will be discussed in the context of the contribution to knowledge later in this chapter.

### 7.2.2 Managerial Implications

1. The research demonstrates to managers the possible outcomes and the measurable value of business networking from a marketing perspective.

2. The research findings provide an operationalised model of networking performance showing how sales turnover might be increased as a result of networking activities and may be directly affected by the strength of the networking relationships.

3. The research shows how a more strategic approach to business networking based on planned network behaviour and the intensity of networking can be increasingly effective as the firm becomes more embedded in its chosen networks.

The economic focus on the outcomes of networking will appeal to managers with a specific interest in using business networks for marketing purposes. The findings suggest that smaller firms are likely to derive the greatest benefit from networking and also how firms in diverse business sectors can increase sales turnover by incorporating networking in their marketing activities. The managerial implications and recommendations for achieving successful outcomes from business networks will be explored further in this chapter.

### 7.2.3 Implications for policy makers

1. This research provides a large-scale empirical study of the approach to and benefits of business networking, with a rich source of data on business networking practices in the West Midlands. The study shows that business networks are an established part of the

business environment and that managers are becoming increasingly selective in their expectations from being a member of a business network.

2. From the findings, there was a strong indication for policy makers and business advisors involved in the development of networks, that business networks should be focussed on specific market sectors and business opportunities to become more effective.

3. It was also noted that whilst many business networks were grateful for the financial support offered by government backed business agencies to enable a network to operate, in many cases the network members did not welcome the controlling hand of the agency concerned. This suggests that publicly funded agencies should create the conditions where firms can take control of their own networks and be encouraged to achieve positive networking outcomes.

In considering the implications for policy makers and business advisors, it became evident that the governance of a network was of paramount importance if the network was to survive and thrive. Whilst it was not the original intention of this study to develop a framework for developing a successful network, important considerations for policy advisors have emerged during the research, which will be expanded and discussed further in this chapter in conjunction with the recommendations for managers.

### 7.3 Theoretical implications

This research contributes to the increasing understanding of dyadic relationships in business networks and the business outcomes from networking activities, through the development of a model of Networking Performance. The developed hypotheses are

discussed with reference to the literature and the degree to which they are supported in the findings and the relative influence of each of the identified variables. The parsimonious model of networking performance is explained and discussed in the context of how it should be understood and operationalised.

### 7.3.1 Networking Performance

The dependent variable in this study is networking performance (NP). Networks have previously been studied using managerial assessments of performance, where managers were asked to assess their overall satisfaction with the network and the extent to which the network has met its stated objectives (Anderson and Håkansson 1994). In the development of this thesis, NP is taken to mean the combination of the metaphor 'networking' being a collection of actors and their structural connections, linked to 'performance' being the process , manner or execution of the practice of networking. NP is defined as a measure of the outcomes of business networking, being the percentage of a company's sales turnover generated by networking. This hybrid definition is based on the creation, utilisation and maintenance of a network between firms (Corviello and Munro 1995; Gummesson 1995). One problem identified early in the study was that that networking was ignored by many firms due to a perceived lack of accountability due to the absence of relevant performance measures (Rust et al. 2004). The absence of suitable marketing metrics in measuring networking performance has plagued advocates of business marketing seeking to justify the value of networking activity (Lehmann 2004). However, more recent studies of performance in networks have found a positive association between networking practices and firm performance (Terziovski 2003;

Thorngren et al 2010). Hence, there is support from current researchers and from firms participating in this survey, for the development of a quantifiable measure of NP.

Whilst many contemporary studies have investigated the nature of network relationships, studies of relationship performance measures have moved towards a more analytical assessment of relationship benefits. Evidence has been found of established links between networking activities and business relationships for improving business performance (Medlin 2003b; Ottesen et al. 2004; Ritter 2002; Terziovski 2003). Relationship performance has been used as the dependent variable for single firm and dyadic network studies in (Medlin 2003a). There are similarities between the approach to understanding relationship performance in networks and NP. Both share an economic focus that offers direct performance indicators relative to commercial expectations. This suggests a connection between the strength of relationship in a network influencing the activity and the economic outcomes attributable to NP. Strength of relationship was found to have a positive and significant relationship with the wider business excellence variable developed by Terziovski (2003, p.91) in a model where groupings of network practices are required to explain business excellence. The difficulty with the Terziovski study is the interpretation and operationalisation of the dependent variable based on business excellence.

Whilst there is undoubtedly merit is selecting a non-financial measure for assessing performance in networks, the respondents to the qualitative study were keen to see an economic measure for NP. The adoption of an economic measure based on sales turnover

may be criticised for being simplistic but it has the benefit of being easily understood by practitioners (Medlin 2003b). In addition, the decision to adopt a measure for NP based on sales turnover received positive feedback from practitioners involved in the development of the questionnaire, with the view expressed one respondent that 'you cannot argue with sales turnover'.

Sales turnover has been used by Chell (2000) as the basis for measuring networking activity related to business performance in a comparative study of SMEs, suggesting the higher the level of networking activity, the greater the business performance measured by an increase in sales. Building on the case study findings of Chell (2000), this study has examined the linkages between networking activity (measured as networking intensity) and the increase in sales turnover (NP). Further support was found in Thorngren et al. (2010) where sales turnover was identified as a rational goal in assessing strategic network performance. From this and the earlier synthesis of research into aspects of networking, the conceptual model Figure 5.3 was developed to explain the indicators of NP. This draws on the previous research strands and the parsimonious model in Figure 5.1, with a statement of research hypotheses in Table 5.3.

### 7.3.2 Relationships between the Research Constructs

The findings from the qualitative pilot study were used to validate and refine the network constructs associated with NP, described in the conceptual model at Figure 5.3. Exploratory factor analysis was used to extract the multi item measures. Six reliable measures of NP based on the original constructs were identified; Network Attractiveness,

Networking Profile, Planned Networking Behaviour, Networking Intensity, Degree of Embeddedness and Strength of Relationship. Findings for these constructs were presented in assessment of research hypotheses at Table 6.9. Four measures; planned networking behaviour, networking intensity, degree of embeddedness and strength of relationship, were found to be significant as predictors of NP as follows:

#### 7.3.2.1 The relationship between Planned Networking Behaviour and NP

The concept of networking behaviour has been referred to in a number of networking studies (Ford et al. 2002; Ford et al. 2003; Ritter 2002; Thorelli 1986). It is described as the interactive process whereby actors seek to develop close relationships on the basis of reciprocal and mutually beneficial actions (Thorelli 1986).

In the literature, Thorelli (1986) suggests that networking behaviour is seen to have stabilising or destabilising consequences on the performance of the network. Anderson and Håkansson (1994) found that business relationships in a network could be heavily influenced by the perceived behaviour of the actors within the dyadic structure of the network, strengthening or weakening the network by their individual actions. Networking behaviour is also seen as a conditioning process, influenced by individual actions within the network (Achrol and Kotler 1999; Anderson and Håkansson 1994). Investigating network outcomes in business networks Pittaway et al. (2005) found that formal behaviour in networks was associated with the most productive networking outcomes. In the process of understanding and refining the measure, it was the more formal or strategic approach to achieving NP that suggested the development of the adapted measure,

labelled Planned Networking Behaviour. This new measure was developed following the initial extraction of four items in the factor analysis in Figure 6.3 with a Chronbach's alpha of 0.866. On investigation, the Chronbach's alpha was improved to 0.890 by dropping the fourth factor (Q6d networking comes naturally and I am an enthusiast). The remaining three factors (Q6a; networking is an important part of our marketing, Q6b; networking is a good way to meet business contacts, Q6c; networking is a good source for business referrals) were concerned with the instrumental aspects of networking behaviour, in particular the proactive behavioural traits of marketers in networks. It was the deliberate focus on planning that distinguished respondents in the qualitative study, with a preference for suggesting that positive planned networking behaviour led to higher levels of NP. Hence the creation of the new measure of planned networking behaviour. Planned Networking Behaviour has a significant effect on NP ($\beta = 0.334$, $T = 5.289$, $p = <0{,}001$). The variable *planned networking behaviour* was supported in the NP model.

There is some support for this finding in Ritter (2002), where a positive relationship between exchange behaviour in the network and network competence was established. In a separate study, a link was found between networking behaviour and innovation, directly affecting the performance of the network (Pittaway et al. 2004). Similarly in a study of entrepreneurial networks Dodd and Patra (2000) found a relationship between network behaviour and network size. This suggested that smaller networks demonstrated more positive networking behaviour and stronger networking relationships but there was no evidence that this influenced network outcomes. Palmer and Richards (1999) identified that whilst people (actors) believed in demonstrating positive networking behaviour, they

were encumbered by present organisational behavioural norms. Therefore it is possible that a more structured approach using planned networking behaviour may have a more positive influence on networking outcomes such as NP found in this study.

In explaining relationships in networks, it is evident from early studies that embeddedness could play a significant role in determining the extent of the relationship between the network variables (Granovetter 1973). Indeed, Uzzi (1996) noted the moderating role of network embeddedness, being the extent to which a focal relationship is embedded in a network. Network embeddedness was found to increase the effectiveness of networking outcomes in a study of buyer supplier relationships, where embededdness was found to have a moderating effect (Wuyts and Geyskens 2005). Therefore from the literature, the role of embeddedness and specifically the degree to which an actor is embedded in a network suggests that in this study, degree of embeddedness may have a interaction effect between the IV and the DV, as subsequently investigated in this study.

Degree of embeddedness was examined for interaction effects between planned networking behaviour and NP. In the findings presented in 6.4.1, no significant moderation effect for degree of embeddedness was found between planned networking behaviour and NP.

However, when examining for possible mediation effects, it was evident that *degree of embeddedness* has a mediating effect between *planned networking behaviour* and the

dependent variable *networking performance* as described in Figure 7.6. This suggests that as *degree of embeddedness* has a positive effect on *planned networking behaviour* and its influence on NP increases as actors increase the degree to which they become embedded in a network. This is supported in Polidoro et al. (2011) where embeddedness had an indirect mediation effect on operational behaviour where the incentives or rewards for business success are greater. Therefore, with support from the literature, the mediating role of degree of embeddedness between planned networking behaviour and networking performance is established as a significant finding in this study. The mediation effect of degree of embbeddedness is discussed further in 7.3.2.5.

#### 7.3.2.2 The relationship between Networking Intensity and NP

Networking intensity refers to the extent to which interacting organisations' are committed to a networking relationship in terms of frequency of contact and the resources employed (Aldrich 1979). Networking intensity is said to have a positive impact on networking outcomes Van de Ven (1976), and was consequently used in this study. The findings from the pilot study found that regular attendance at networking events was important in the process of achieving positive networking outcomes. Therefore, networking intensity was considered an important variable as an indicator of NP, with respondents keen to emphasise the importance of regular face to face contact with their network partners. Similarly, respondents stressed that frequency of contact and being seen to contribute at network meetings, was an important factor in ensuring positive outcomes from time spent in business networking activities.

Networking intensity has a positive and significant effect on NP (β = 0.338, *T* = 5.357 p = <0.001) and *networking intensity* is supported in the NP model. This finding endorses the recommendation from the respondents in the pilot study that frequency of contact and regular participation in networking activities which is described in this study as networking intensity is important in determining positive networking outcomes and enhancing NP.

Networking intensity was found to have a direct influence on networking outcomes (Gemunden et al. 1996; Lambert et al. 2009). However, in a panel study, Haynes and Senneseth (2001) found no direct relationship between networking intensity and growth in sales but do acknowledge a relationship between networking intensity and networking performance. With further analysis and similar to planned networking behaviour, *degree of embeddedness* was found to have a mediating effect between *networking intensity* and the DV *networking performance*, as described in Figure 7.7.

There is further support for degree of embeddedness having an interaction effect between variables, with Holm et al. (1996) reporting that embeddedness was found to have a mediating effect between relationship commitment and relationship profitability. Although there is no evidence of a similar relationship between intensity and performance in the literature, in a study of SMEs in the Tees valley, Kalantaridis (2009) found a relationship between enterprise strategy and firm performance, where patterns of embeddedness in networks were found to have an mediation effect on firm performance. As such, degree of embeddedness may enhance the effect of networking intensity on NP.

The effect of embeddedness and its relationship with on the DV will be discussed further in the following section.

#### 7.3.2.3 The relationship between Degree of Embeddedness and NP

The degree of embeddedness in networks is widely recognised in the literature as influencing network outcomes (Ritter et al. 2004). Embeddedness in network relationships was recognised by Håkansson (1987) as having a positive effect on network outcomes and there is evidence for degree of embeddedness having an interaction effect between the independent variables and the dependent variable in network analysis (Andersson and Forsgren 2000; Holm et al. 1996; Holmlund and Törnroos 1997). In considering degree of embeddedness in this study, the Chronbach alpha for this variable with 6 items is 0.719, above the desirable limit of 0.7 and therefore can be considered reliable in this study.

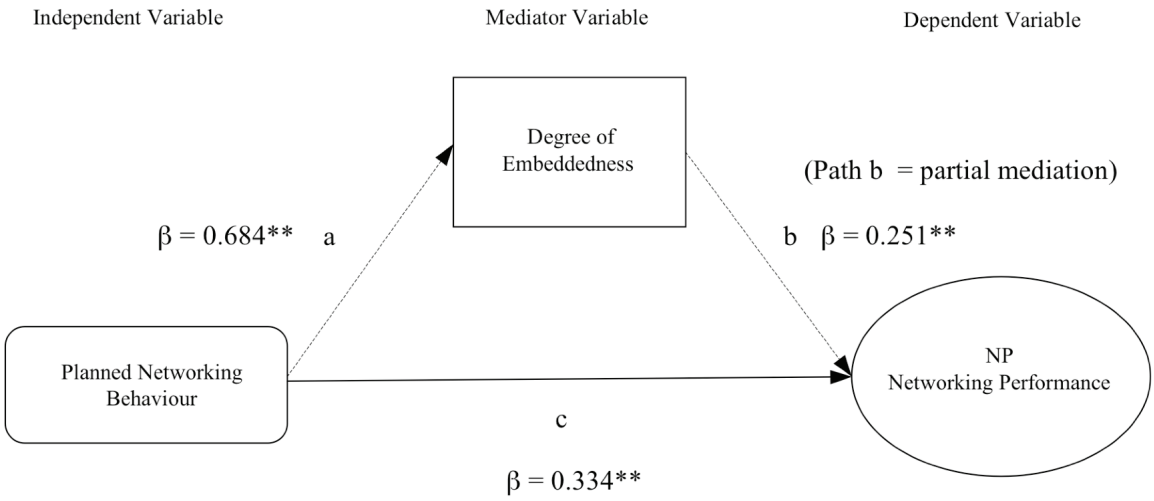
The hypothesis $H_{3a}$ (Greater embeddedness in a network will have a positive effect on networking performance) was supported in the bivariate regression with NP ($\beta = 0.362$, $T = 5.802$, $p = <0.001$). However, and contrary to earlier expectations, *Degree of embeddeness* was found to be not significant in the model of NP ($\beta = 3.106$) in Table 6.11.

However, on further analysis, degree of embeddedness was found to have a significant interaction effect with NP when examined as a mediating variable. Degree of

emebbeddedness was first examined for mediation effect between Planned Networking Behaviour (PNB) and NP as described in Fig 7.1.

**Figure 7.1**

**The Mediation effect of Degree of Embeddedness on PNB and NP**

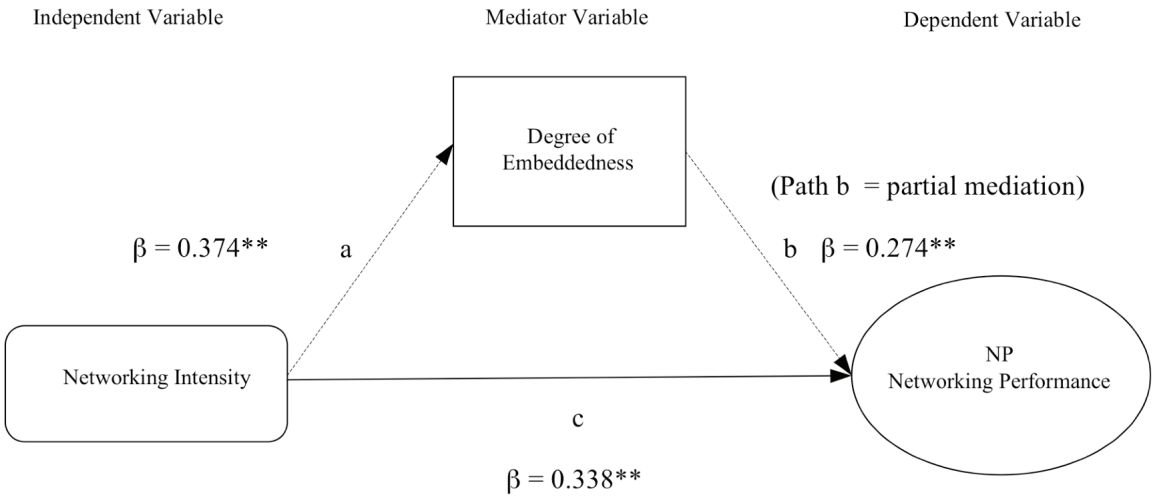



Following the four-step process recommended in Kenny (2009), degree of embeddedness was examined for its interaction effects as a mediating variable with planned networking behaviour and NP, Beta (β) = 0.251 significant at the < 0.01 level). In calculating the mediation effect on planned networking behaviour Beta (β) = 0.162, which being smaller than the causal path c where Beta (β) = 0.334, thus meeting the step 3 requirements of Barron and Kenny (1986), indicating the mediation effect of degree of embeddedness on planned networking behaviour and NP, as shown in Fig 7.1.

Degree of embeddedness was next examined for mediation effect between Networking Intensity (NI) and NP as shown in Fig 7.2.

**Figure 7.2**

**The Mediation effect of Degree of Embeddedness on NI and NP**




Degree of embeddedness was next examined for possible interaction effects as a mediating variable with networking intensity and NP, with Beta (β) = 0.274 and was significant at the < 0.01 level. In calculating the mediation effect on networking intensity Beta (β) = 0.235, which being smaller than the causal path c where Beta (β) = 0.338, met the step 3 requirement of Barron and Kenny (1986), indicating the mediating effect of degree of embeddedness on networking intensity and NP.

Finally the same check for mediation was conducted on strength of relationship, where on this occasion degree of embeddedness with Beta (β) = 0.039 was not significant and was therefore found to have no mediating effect between strength of relationship and NP.

According to Kenny (2009); to establish that the mediator variable completely mediates the relationship between the predictor variable and the DV, the mediating effect the Beta value to reach zero. Therefore as none of the β values in step 3 were zero, only partial mediation can be claimed. The findings confirmed that degree of embeddedness has a partial mediating effect on the relationship between planned networking behaviour and NP and also between networking intensity and NP.

According to Garnett et al. (2008), mediation effects are often not mutually exclusive from either a conceptual or empirical perspective. This applies to this analysis, where degree of embeddedness was found to mediate the relationship between networking behaviour and networking performance, with patterns of planned networking behaviour being influenced by the degree to which the actor is embedded in the network, which in-turn may affect the performance of the network (NP). This mediation effect may be apparent at the same time that degree of embeddedness may also mediate how networking intensity influences NP.

Degree of embeddedness was found to have a role as mediating variable in developing a model of NP, rather than a direct relationship as independent variable, as had been originally anticipated. This is in contrast to Holmlund and Törnroos (1997), who found

that network embeddeddness had a positive impact on the networking exchanges they encompass. Similarly, Medlin (2003) found positive relationship between network embeddedness and the perceived economic benefits and network outcomes as the degree of embeddedness increases. A possible answer for the findings associated with degree of embeddedness in this study, might lie in the original observations of (Granovetter 1973). When considering the strength of weak ties in determining the economic outcomes from a network, Granovetter noted that to optimise the economic benefits of a network, embeddedness would only yield positive outcomes up to a threshold point. This was attributed to the network being dominated by either a high percentage of strong ties or weak ties, whereas for optimal performance, a balance of strong and weak ties would be required in the network. This view was supported in a later study of the economic consequences of embeddedness in networks (Uzzi 1996). Further research would be required to establish under what conditions degree of embeddedness might have a more significant direct effect on NP.

#### 7.3.2.4 The relationship between Strength of Relationship and NP

Relationships are seen as a prerequisite to successful networking and the development of inter-firm collaboration (Achrol 1997; Anderson and Håkansson 1994; Håkansson and Snehota 1995). Ritter et al. (2004, pp.176-181) suggest that in understanding networks and the managerial aspects of networking, there is a connection between networking capabilities and firm performance. Relationship performance is seen to have had a direct bearing on a firm's competitive strength and therefore its performance. It is incumbent on the relationship parties (actors) in the network to understand the requirements of each

party and so build an understanding of the future relationship (Medlin 2003, p.9). From the pilot study, it was evident that it was not the relationship alone but the strength of the relationship, based on the frequency of contact and the degree of mutually beneficial networking activity that might prove an important indicator of NP.

Strength of relationship was measured using eight items developed in the qualitative pilot study. The Chronbach's alpha for this variable was measured at 0.889, which is considered to be very reliable. Strength of Relationship has a positive and positive effect on NP ($\beta = 0.464$, $T = 7.821$, $p = <0.01$). Strength of relationship was supported in the NP model. This was a significant finding and endorsed the belief among many researchers that there is an important relationship between the Strength of Relationship and networking outcomes, in this case NP.

Ritter el al. (2002) endorsed the importance of managing relationships in a network to enhance a firm's strength and performance. In one of the few quantitative studies using network relationships as an independent variable, Terziovski (2003) found the relationship between informal business relationships and business excellence as not significant. It would be interesting to know whether a more formal or structured approach to developing relationships might have found a more significant result. Few researchers appear to have made a distinction between formal and informal business relationships when investigating networking outcomes. However, relationships in networks are at the subject of many studies, exemplified by Ford (1990), Mattsson (1997), Möller et al. (1999) and Turnbull et al. (1996). These and other studies have made a significant

contribution to the understanding of the importance of relationships in networks but few have identified that it is the strength of the relationship that is most likely to influence network outcomes. The exception is Medlin (2003, p.5) where strength of relationship was found to provide a measure of relationship performance and the economic outcome of firm performance. Having conducted a comprehensive review of relationships in networks, Ritter et al. (2004) called for further research to develop good measures network relationships and how they empirically contribute to network development and firm performance. This study has found that strength of relationship is a significant measure of networking performance and has therefore made an important contribution to understanding the role of relationships in business networks.

#### 7.3.2.5 The relationship between Network Attractiveness and NP

Network attractiveness was considered important by the respondents in the pilot study and is an established network concept, being defined as a 'mutual construct which describes the mutual interest between actors within a network (Ellegaard and Ritter 2008, p.4). The Cronbach alpha for this variable with 2 items was 0.707, suggesting it was within the acceptable limit for reliability.

However, *network attractiveness* was not supported in the NP model. The relationship with NP was not significant. Network attractiveness had not been used as a measure in a quantitative study, despite the concept being developed by Ritter et al. (2004, p.178) where firms were thought to appreciate the relative attractiveness of embedded networks and perceived distinct differences in relative network performance. As a concept,

network attractiveness is said to have a social dimension reflecting the perception of the people involved in the network relationship (Holmlund and Törnroos 1997). This echoed the earlier findings of Anderson and Håkansson (1994) where network attractiveness was identified as important to the development of dyadic business relations in a network. This was then supported by the findings in the pilot study where respondents were able to make a clear distinction between attractive and non-attractive networks, considered by the respondents as being important in assessing a network's potential. However, no evidence could be found for network attractiveness having being identified in earlier quantitative studies on networks, so it was difficult to make a direct comparison with the findings in this study. It is possible that as this is the first attempt to operationalise the measure of network attractiveness in relation to the economic outcome of NP, perhaps the measure was not sufficiently developed. Therefore, as network attractiveness was not found to be a significant predictor of NP in this study, further research would be required to better understand the relationship of network attractiveness to networking performance.

#### 7.3.2.6 The relationship between Network Profile and NP

The construct identified as Network Profile is a recognised marketing and social phenomenon associated with assessing the relative market positioning, awareness and perceived prestige of the network. Achrol and Kotler (1997, p.161) defined network profile as "how the network is perceived from the viewpoint of the actors both within and outside the network". Network profile was considered a precursor to defining the identity and therefore the relative attractiveness of a network (Anderson and Håkansson 1994).

The Chronbach's alpha for this variable with 3 items was 0.717 which is above the desirable limit of 0.7 and therefore can be considered reliable. However, *network profile* was not supported in the NP model. The relationship with NP was not significant. As far as can be ascertained, network profile has not been used as a quantifiable measure in a networking study, so it is arguably not surprising that as a new measure it proved to be not significant in its relationship with the dependent variable networking performance in this study. Further research would be required to develop the measure of network profile in relation to the economic measure of NP.

#### 7.3.2.7 The relationship between Organisation Size and NP

Firm size by sales turnover has been used as a control variable in Medlin (2003) where it was found to have a similar negative coefficient on relationship performance and in Garnett et al. (2008, p.277) where organisation size (measured by number of employees) also had a negative coefficient and was significant in predicting organisation performance.

In this study, a number of control variables relating to firm and respondent characteristics were assessed. From the OLS regression findings presented in Table 6.10, only organisation size measured by sales turnover showed significant results. However, these have to be interpreted with caution because a) these were estimated as dummy control variables which are a bit crude, b) negative values were found for both small and large firms. This suggests a certain ambiguity in determining the role of organisation size using these results. However, the findings do indicate that smaller firms are likely to derive

greater benefit from participating in networking activities. This suggests that the smaller the organisation (measured by sales turnover) the greater the percentage of the overall turnover is likely to be generated by networking activity and hence the predicted value for NP. The lack of conclusive evidence that turnover has a defined controlling effect on NP made it unwise to pursue this as a control variable in this study. Further research would be required to support the role of firm size in developing a model of NP.

### 7.3.3 A model of Networking Performance

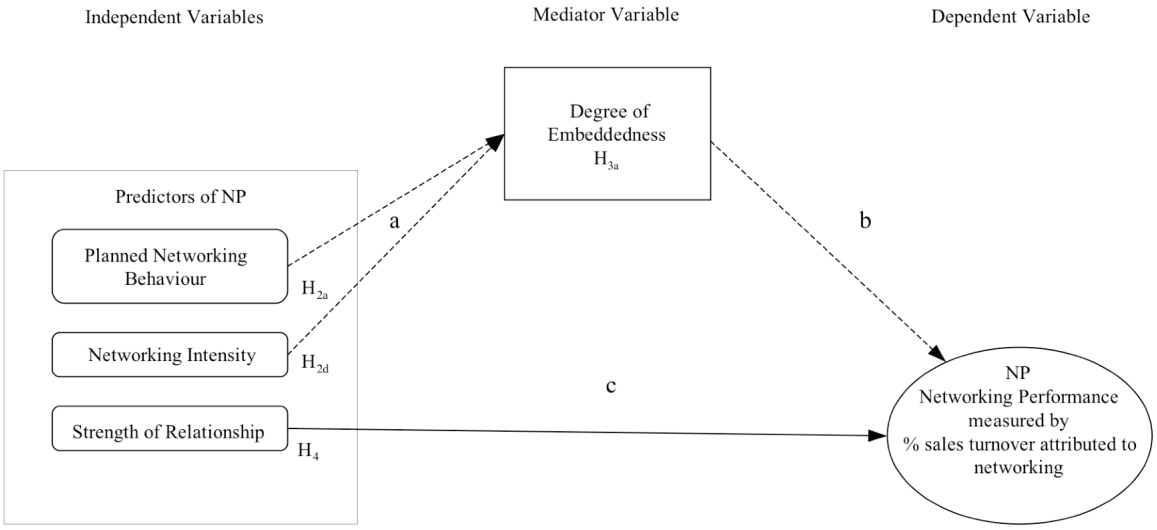
The purpose of this research was to develop and test a model of Networking Performance. The relationship between the independent variables and the dependent variable NP, have been discussed in the previous section. From the six independent variables, three, *planned networking performance, networking intensity* and *strength of relationship* were found to be significant in the development and testing a model of networking performance. In addition, *degree of embeddedness* was found to have a partial mediating effect between *planned networking behaviour* and NP and also between *networking intensity* and NP.

The final model of NP illustrated in Fig 7.3 shows the framework of network variables most likely to influence Networking Performance. The model suggests that organisations seeking to maximise the sales turnover opportunities derived from business networking should manage their Planned Networking Behaviour, maximise their networking activities (Networking Intensity) and strengthen their business relationships (Strength of Relationship). In addition, organisations should be aware that being embedded in a

network (Degree of Embeddedness) is particularly important for firms joining a network if they want to achieve a high level of NP through a planned approach to networking behaviour and by maximising network intensity.

**Figure 7.3**

**A model of Networking Performance**




The model was supported in terms of goodness of fit for the variables as presented in Table 6.11 Model 3 showing the combined results for the independent variables and the control variables. The overall results are generally in-line with the predictions and consistent with the findings in the pilot study. From the six constructs tested, three were found to significantly influence NP.

From these findings, conclusions can be drawn from a theoretical perspective about the approach to business networking by firms wishing to increase sales turnover by engaging in networking activities, summarized as follows:-

***Planned networking behaviour***

When considering the relevance of networking behaviour on NP, this study shows that it is the strategic aspects of planned networking behaviour that can have the most influence on the percentage of sales turnover attributed to networking. The factors having the greatest impact on planned networking behaviour were (a) networking was a good way to meet business contacts, (b) networking is a good source of business referrals and (c) making networking an important part of the marketing mix. This builds on the findings of Thorelli (1986) who saw positive networking behaviour as a proactive trait. Having a strategic approach to planned networking behaviour, with its predisposition to positive networking activity which may be enhanced by degree of embeddedness, is an important finding in this study. The conclusion from this research is that the proactive nature of the new measure 'planned networking behaviour' is important in determining NP.

***Networking intensity***

Respondents to the pilot study identified networking intensity, being the number of networking events attended in a calendar month, to be an important indicator of NP. Those who attended the highest number of events, also claimed the highest percentage of sales attributed to networking. This confirms and strengthens the findings of Lambert et al (2009) where networking intensity was recognised as a contributor to networking

success. Haynes and Senneseth (2001) also found a direct relationship between networking intensity and networking performance, although in their study NP did not result in an increase in sales turnover. However, Haynes and Senneseth suggest length of time spent in the network would show a higher return on sales activity. This coroborates the finding in this study where degree of embeddedness in the network was found to have a mediating effect between networking intensity and NP.

***Degree of embeddedness***

In this study the degree to which actors are embedded in a network was found to have a partial mediating effect on NP. This finding suggests that whilst degree of embeddedness alone is not a predictor of NP, it can have an important role in influencing the relationship between the networking constructs, planned networking behaviour and networking intensity with NP. To illustrate this, planned networking behaviour may be influenced by the degree to which the actor is embedded in a network, which in turn may have an influence on NP. This mediation effect may be apparent at the same time that degree of embeddedness has a mediating effect between networking intensity and NP. Therefore, the mediating effect of degree of embeddedness is seen as a new insight in this study and is an important contribution to the understanding of the role that degree of embeddedness has in network studies.

***Strength of relationship***

The importance of relationships in networks features throughout the literature and found support in this study from the respondents to the pilot study. Strength of relationship was

measured using nine items, of which eight were found to contribute to building and maintaining strong relationships in the network. It is important to reflect that it is not the relationship itself but rather the strength of the relationship which determines the networking outcomes, in this case a higher percentage of sales attributed to networking activities. This reinforces and enhances the findings of Iacobucci (1996) who found that it was the strength of the relationship between actors in a network, which was a positive influence on high performance networks.

***Networking performance***

In this study it was decided to seek an objective measure for NP based on actual sales turnover, based on measures developed for firm performance in networks in comparative studies (Kale et al. 2002; Kandemire et al. 2006; Thorgren et al. 2010). The decision to use a tangible measure based on sales turnover was taken following the findings of Seggie et al. (2007) who concluded that establishing firm measures for return on intangible activities such as networking was a high managerial priority. This need to establish quantifiable measures for intangible marketing activities like networking is supported by (Hays and Senneseth 2001; Rust et al. 2004; Terziovski 2003). The findings of this study and the creation of a model of networking performance based on tangible measure of NP should appeal to both academics and managers as the findings are operationalised.

## 7.4 Implications for Managers

In considering the managerial implications of this study, the approach adopted is akin to what Kale et al (2002) describe as opening the 'black box' surrounding business networks. The early assistance of experienced managers and business owners in shaping the direction of this research has been extremely beneficial in keeping an operational perspective on the outcomes of this study.

The results from this study will provide policy makers, business advisers and practitioners with a valuable insight into the best practice approach and tangible benefits of business networking. The identification of a measure of networking performance based on sales turnover should find a resonance with business owners, managers and all those involved in business networks. The findings have specific implications for government supported business advisers who have championed the establishment of business networks in the past and are seeking a method to measure the value of business generated from specific networking activities.

The operational findings and recommendations of this study for firms and government advisers in the West Midlands are presented in Broad (2009) attached in Appendix G to this thesis. The main findings are summarised and discussed below.

### 7.4.1 Main findings of the survey for managers

- Networking generated an average 25% of the respondents' sales turnover
- Approximately half the respondents were members of 3-5 network groups

- The majority (82%) consider networking important to their marketing
- Planned networking behaviour and networking intensity increased NP
- The degree to which managers are embedded in a network enhances NP
- Managers creating strong relationships in the network can improve NP

From the responses to the survey, the findings across all business sectors and representing all job titles, ages and gender, were consistent, with the context variables having no effect. The headline finding was the value of business (an average 25% of turnover) directly generated by networking activities. This was higher than originally thought from the pilot survey and clearly demonstrated the potential return on investment in networking activities to firms in the West Midlands.

The development of an operational model of networking performance is the major outcome of this research study for managers. The evidence from the literature and in anecdotal comments from managers is that business networking is not taken seriously by some firms due to the absence of measures and therefore a lack of 'accountability' at boardroom level. This is understandable at a time when marketing managers are being encouraged to use credible metrics for measuring marketing performance and the return on investment from marketing activities. The simplicity of using a measure to access networking performance based on an increase in sales turnover will resonate with managers and directors seeking to justify the financial investment and time spent in business networking activities.

An important premise of this research was to establish whether managers using a more strategic or planned approach to networking enjoyed more positive outcomes than managers who adopted an ad-hoc approach to business networking. The findings from both the qualitative study and the main survey clearly indicate that a strategic approach to business networking based on planned networking behaviour and the frequency (intensity) of networking can be increasingly effective as the firm becomes more embedded in the network.

The importance of developing relationships in networks has been well documented but is still not understood by many managers engaging in networking activities. Managers participating in networks will recognise the 'hunter-gatherer' networker, whose sole purpose is to target business prospects and collect business cards. Contrast this with the manager who carefully researches a network before joining and then build strategic relationships with new business contacts by remembering that it is a interactive process of engagement. The maxim of 'givers gain' attributed to the founder of BNI, Ivan Misner, typifies an interactive approach to developing relationships in networks. The findings from this study endorse the sentiment from Misner but go further to suggest that it is the 'strength' of the relationship and not just the relationship itself, which is important for managers to recognise and adopt when building their personal business networks.

Finally, the economic focus on the outcomes of business networking in developing a measure for networking performance will appeal to managers seeking to justify

investment in networking activities. There is a strong suggestion from the findings that smaller firms (SMEs and Mico-Businesses) and likely to benefit the most from business networking activities. This finding is supported in the networking literature but is also endorsed in this study. This doesn't mean that large firms cannot benefit from networking, they can and they do. However, larger firms have internal networks (intra-networks) which fulfil some of the requirements and benefits found by smaller firms in business networks, such as knowledge and technical network exchanges. The findings in the study support the research objective to develop of networking performance which will be beneficial to large and small firms as they seek to maximise their marketing opportunities through building relationships in business networks.

### 7.4.2 Main recommendations from the research for managers

- Attention to planned networking behaviour will achieve better NP
- Increasing networking intensity will achieve better NP
- Creating stronger network relationships will achieve better NP
- Becoming more embedded in a network can influence NP

Each of the above recommendation, which are supported by the respondents in the qualitative research phase, are discussed in more detail in the following section.

**Managers should plan their networking behaviour**

To get the best results from network membership, managers should carefully plan how they are going to behave in the network group. The process starts before joining the

network, where some research into the profile of existing network members will indicate whether the network has the appropriate membership to meet the desired outcomes. Once in the network, managers achieve the best results by adopting a reciprocal approach to exchanging information through considered network exchanges. For managers new to networking, the best advise is to identify the existing group members who are considered to be the most proficient networkers and then emulate their behaviour. Finally, managers can enhance their sales turnover from networking activities by becoming more embedded in the network. This can be achieved by taking a central position in the development of the network, possibly as a director of the group, which demonstrates positive planned networking behaviour.

**Managers need to attend networking events frequently**

Managers who demonstrated the best networking outcomes typically belonged to between 3-5 business networks and regularly attended networking events. It is the intensity of networking activity which produced the highest networking performance. However, this is not just networking for the sake of networking, rather a planned approach to maximising individual networking and business opportunities. Evidence from the survey and the model of networking performance supports the need to attend networking events regularly and frequently to achieve the best networking outcomes. This level of involvement or networking intensity can further enhance networking performance the more the manager becomes embedded in the network. This implies an active rather than a passive approach to business networking, exemplified by the respondents to the pilot study who described themselves as enthusiastic networkers.

**Managers need to develop strong network relationships**

Whilst managers would recognise the need to build business relationships to get the best results from their networking activities, many fall into the trap of seeking immediate results. According to the respondents in both the pilot study and the main survey it takes time and persistence to create strong business relationships as it does in any other type of relationship. The survey also identified that it was the strength of the relationship that was the key to unlocking the potential of positive networking outcomes and hence networking performance. For managers, having first mastered the requirement for planned networking behaviour, then need to concentrate on building stronger business relationships in order to maximise networking performance.

From my own experience of working with all types of business networks, my approach is to identify what I can do for new contacts first to establish my credentials before expecting business or referrals in return. This is supported by Misner (2000, p.190) "It's not what you know, or who you know – it's how well you know them that makes the difference". Few managers will argue with this sentiment, which then begs the question why some managers don't work harder at building stronger business relationships.

**Managers should embed themselves in a network for better business outcomes**

From the research findings, there is a positive relationship between planned networking behaviour, networking intensity and degree of embeddedness, which when working together will produce higher levels of networking performance. Becoming embedded in a

network may take commitment but the positive outcomes seem to reward managers who persevere. The recommendation is that managers should seek to influence the performance of the network by becoming more involved in the network organisation, administration and leadership. This may be achieved by joining the network leadership team, or by becoming a director of the network group. The secret to achieving a high level of embeddedness is for managers to be seen to be at the centre of the network, to be recognised as an influential 'hub' firm, reliable, dependable, trusted and a consistent high achiever.

The findings and recommendations for managers presented in this section, closely echo the finding produced in the operational report developed for Advantage West Midlands (Broad 2009). The one main difference is that in the original operational report based on the qualitative study, network attractiveness was considered an important pre-requisite for achieving networking outcomes and better NP. However, this was not supported in the quantitative analysis. Whilst respondents might have been attracted to join a network based networking attractiveness, this was not a requirement to achieve higher NP. On reflection and from an operational perspective, this now seems a logical conclusion to the findings, as the importance of network attractiveness may decrease as an actor becomes more embedded in the network. However, practitioners should also be aware that 62% of respondents had also left a networking group citing a number of reasons based on the way the network was managed and the lack of business results. In short, stating the network concerned was no longer an attractive business proposition. This finding refers to the cost in time and membership fees of belonging to a network, where managers can

be highly selective in which networks they choose to join and also which networks they choose to leave. This suggests that managers are becoming more discerning in selecting business networks and it is hoped that this study will provide a method for managers to better understand the benefits of business networking and provide a measure of networking performance.

### 7.5 Implications for policy makers

Business advisers and policy makers are increasingly concerned with the outcomes of business networking rather than just the number, structure and membership of networks. This study was supported by the regional development agency in the West Midlands who, having invested and supported various business networks, were seeking information on suitable networking outcomes, on which to base future investment strategies. The main findings and implications for policy makers and business advisors are presented in the following section.

#### 7.5.1 Main findings from the survey for policy makers

From the findings, the main recommendations for advisers and policy makers are:

- An average of 25% of sales turnover was found to be generated by networking
- Approximately half the respondents were members of 3-5 network groups
- The majority (82%) consider networking important to their marketing
- The majority were interested in using networking to get new business referrals
- 55% of respondents had left a networking group citing lack of business referrals
- Exclusive membership is attractive to banks, financial services & property companies

- 60% actively seek to collaborate with other members in the network
- Only 33% considered being part of a region-wide network to be important
- Government agencies can get good results from 'pump-priming' new network groups

Advisers will note that respondents in the pilot study considered the four most important aspects of a networking meeting to be; 1) high calibre members, 2) good speakers, 3) good venues, 4) more members in the network. Being a member of an exclusive networking group was not as important as had been suggested by Advantage West Midlands and in many cases respondents did not welcome the controlling hand of the agency, although they welcomed the financial support. The findings suggest that while assistance in establishing a new networking group is beneficial, the earlier the new group is enabled to control its own development programme and networking parameters, the more determined and committed it will be to achieve its networking outcomes.

For policy makers, there was also a suggestion that business networking groups should be more focussed on specific market sectors and business opportunities. This was certainly evident in the findings from the business and professional services sector, who sought to 'punch above their weight' by collaborating on larger projects. Interestingly, despite the proliferation of newer business networks, the Chambers of Commerce still ranked highest for length of membership, new business contacts, business referrals and for being the networking organisation most referred by its members to others.

### 7.5.2 Main recommendations for policy makers

Business advisers and policy makers need to be cognisant of the latest trends in business networking, which can only be achieved by actively participating in business networks. For example, in designing the parameters for this research study, I personally attended dozens of business network meetings throughout the West Midlands region to meet and engage with a wide variety of business people. The range and diversity of business networking groups in the region is huge. Every type of business network is represented, from strong contact business referral groups like BNI, to weak contact networks like the Chambers of Commerce, where business networking is conducted in a more relaxed atmosphere. Somewhere in the middle are the sector specific groups like business and professional services networks, professional institutes and business associations, women only groups and social networking groups.

Business networks and the practice of networking are constantly evolving. Policy advisers need to be clear about what type of network they are advising, its aims, objectives and desired networking characteristics. Networks should be considered in terms of an exchange, which may be specific to a business discipline (e.g. human resources), knowledge based, technological, environmental, commercial, procurement & supply chain, manufacturing, aftermarket, business services, creative services, IT & communications, legislative (conformance), innovation networks, market opportunities or business development (marketing).

In considering establishing a new business network or supporting an existing network, business advisers should be aware of and map existing, competing or over-lapping networks. A network has to be positioned within the existing network structure, recognising that all networks are to some extent competing for network resources and members. One of the problems facing policy advisers is the heterogeneity and complexity in networks which makes designing an all-encompassing policy difficult. Judging best practice in networks is as transient as the membership of the networks with most network groups experiencing a high turnover in members.

Other factors in designing networks are quality standards, creating and delivering value for network members, identifying a unique and sustainable proposition, provision of a networking platform that facilitates active interaction and collaboration, reporting systems and finally performance measures. Advisers should also be encouraged to monitor the demand side (customer requirements) not just the supply side, who tend to be the paymasters and therefore attract an imbalance of attention from policy makers.

As a footnote to this section, academics with responsibility for designing business and marketing modules, particularly at masters level, might like to consider the implications from this study when designing programmes dealing with effective business networks. On a personal note, in conducting this research and visiting dozens of networking groups in the West Midlands, I don't remember meeting many students. The exception is the Chartered Institute of Marketing, which has a strong student membership and actively encourages postgraduate students to attend networking events. The active collaboration

between academic institutions and professional institutes in networking events should be encouraged. For students not yet in employment, this is a marvellous opportunity to see business networking groups in action and is something that I shall personally implement as a result of this research.

### 7.6 Reflection on the Research Process

The decision to commence the research 'journey' which resulted in this study was relatively easy. The practice of networking for business was well established with a burgeoning literature domain devoted to networks and networking. The purpose of this research was to investigate the relationship between networking activities and networking performance, with the objective of developing and testing a model of NP.

Having chosen the research topic, one of the challenges facing the doctoral researcher at an English university is to decide on the most appropriate chapter sequence and content for the thesis to meet the requirements of the examiners, the academic institution and the preferences expressed in the literature domain. The one aspect that authors describing the PhD process do reach agreement on, is that there is no single right number of chapters or necessarily a right way of sequencing the content in the chapters (Cryer 2000; Davis and Parker 1997; Phillips and Pugh 2001). Many theses, especially the more concise works, do not include a specific discussion chapter Perry (1998, p.13), however the conclusion of Paltridge (2002, p.126) in a review of theses texts, recommends the incorporation of a discussion chapter as this offers an opportunity for reflection on the overall study before reaching a final conclusion. This is the approach adopted in this chapter, where a review

and discussion of the overall research process will lead in to the final conclusions presented in Chapter 8.

### 7.6.1 Methodology

From the original project outline, it was always intended to conduct some qualitative face to face interviews to assist in the development of the main survey instrument. The aim was to gain a better understanding of how the identified networking variables worked in an operational environment, with the objective of refining the constructs prior to confirming the questionnaire design and conducting the main survey. The importance of this decision became apparent as the project evolved and it was decided that a hybrid or parsimonious approach to developing the model would be required.

Twenty in-depth interviews were initiated with experienced business networkers. This was to identify what the respondents considered to be the most important contributing factors to creating positive networking outcomes and therefore better understand what constituted measurable networking outcomes. It was considered that this approach to refining the list of potential variables and developing the conceptual model would produce a more relevant and focused set of hypotheses, with the aim of creating a testable model of NP. The practice of using the output from an exploratory qualitative survey to assist in the design of a large-scale quantitative survey is endorsed by Robson (1995) recognising that a pilot study will often improve the quality of data collected as empirical evidence.

### 7.6.2 Qualitative phase – exploratory pilot study

The method used for the initial qualitative survey was based on a semi-structured interview protocol, developed to solicit which factors in the opinion of the respondents were most likely to have a positive influence on networking performance.

This qualitative phase was also considered important for the profile of the research, where active support from recognised business leaders in the West Midlands was seen to be a prerequisite for promoting the legitimacy and creditability of the project. It was also important for the overall project to secure the support of the regional development agency, Advantage West Midlands, which was supporting the research and therefore had a direct interest in the findings. The decision to promote the benefits of the study to the region's business leaders and networking groups at an early stage in the project proved beneficial, as it encouraged wide support for the project study and ultimately encouraged a good response to the main survey.

Interviews were conducted in pre-arranged meetings with executives selected from regional business networking groups. At the close of each face-to-face meeting, the respondent was asked to recommend the names of other senior executives who might be able to contribute to the study. This worked very well, as the first respondent, the head of a major legal practice in Birmingham, picked up her phone and personally made three additional appointments with the heads of leading firms in the city. This approach was repeated in Coventry, Stoke and Wolverhampton, with similar results. The target of twenty completed interviews was reached in five weeks.

The resultant narrative from the twenty interviews were transcribed and coded as described in Chapter 4. A simplified system of textual analysis was used to interpret and report on the findings. The process of matching the respondents' comments to the networking terms was made difficult by the lack of common understanding of theoretical networking terms. For example describing network atmosphere or discussing networking environment, where respondents placed their own interpretation on the terms. However, by introducing more commonly used business terminology e.g. network contacts and network meetings, this greatly assisted in finding a common language for the discussion.

The findings from the pilot study were subsequently refined from an original list of 19 constructs to produce four major headings for the independent variables, designed around the researched areas of (1) network atmosphere, (2) networking environment, (3) networking capability and (4) network characteristics. The refined list of networking indicators were then synthesised to produce a list of independent variables and a revised conceptual framework presented in Figure 5.1.

### 7.6.3 Quantitative phase – main survey

Using the information and findings from the qualitative pilot study described in the previous section, the quantitative methodology was based on the requirement for a large-scale cross-sectional, self-administered postal survey of firms within the defined geographical area of the West Midlands. The objective was to collate multivariate data for analysis from a large sample, to identify linkages between formalised networking

activities and NP. The operational concepts were defined in terms of the independent variables identified in the pilot study with clear measures to test the validity of the developed hypotheses (Bryman and Cramer 1999).

The questionnaire was pre-tested by a small group of respondents who met the sample frame criteria, as they were able to offer a constructive critique of the questionnaire. The design process entailed nine major revisions to the survey instrument, with valuable input from my PhD supervisors and a final check conducted by the data bureau contracted to code the questions and enter the data into a bespoke software package ready for analysis in SPSS v16 by myself. By the closing date, a total of 282 responses (9.3% response rate) had been received. The overall response offered a good number of cases for analysis (Norusis 2008).

Respondents were given the option to complete the survey form as an on-line version prepared in a proprietary web-based survey software package (Survey Monkey http://www.surveymk.com/networkpr). In practice the lack of email addresses in the various networking groups membership data made this difficult to implement, with only 11 respondents completing the on-line version, the majority preferring to complete to hard copy of the questionnaire. In retrospect, the decision to use an online version of the questionnaire was unnecessary as it did not increase the response rate and only offered an alternative to the postal survey. As suggested earlier, one of the problems in implementing an online survey was the lack of email addresses for the target sample data, which at the time, summer 2008, consisted mainly of postal addresses.

The discussion regarding the adequacy of online surveys versus postal surveys continues (Nulty 2008). Web based surveys, such as the one trialled in this study, do have the advantage of lower cost compared to the equivalent postal survey. However, critics of the online or web based survey are concerned with the apparent lack of representation of the desired population due to lack of or incorrect email addresses (Llieva et al. 2002). Meanwhile there is a growing body of evidence showing equivalence between online and postal surveys, where both methods of response have produced equivalent results and similar levels of accuracy and completeness (Deutskens et al. 2006; Evans 2005). The limited findings suggest that online and in particular web-based surveys are gaining acceptance in some academic communities. The limitations of online surveys are being overcome and the quality of the response mechanism is steadily increasing. Based on the experience gained in this study, it is certainly possible that a web-based survey could be utilised in the future for this target group of business networkers.

#### 7.6.3.1 Selection of Measures

In this research, a combination of new and existing scales were used to measure the dependent and independent variables. One of the difficulties faced in making the selection was the paucity of scales that had been tested using a quantifiable methodology to assess networking performance. The majority of variables associated with the markets as networks approach to analysing networks have been evolved from qualitative studies.

It was therefore a bold decision to strike a balance of new and existing measures for this study, as their performance relative to NP had not been tested before. However, the

possible influence of the selected variables had been assessed during the qualitative study, which gave a good level of confidence in their subsequent application in the parsimonious model as it was developed.

Following analysis, the only measure to prove surprisingly unsatisfactory was network attractiveness. The measure has been developed by Ritter et al. (2004, p.178), where firms were found to appreciate the relative attractiveness of embedded networks and perceived distinct differences in relative network performance. This was supported by the findings in the pilot study where respondents were able to make a clear distinction between attractive and non-attractive networks, considered important in assessing a network's potential. Network profile, also proved to be a poor indicator of NP in the regression model in Table 6.8.

The remaining measures, planned networking behaviour, networking intensity, degree of embeddedness and strength of relationship, all proved to be good predictors of networking performance and were supported in the hypotheses presented in Table 6.8

**7.6.3.2 Analysis of results**

The data had been collated and entered into a proprietary software package (Merlin). Tabulations were checked for completeness and then entered into SPSSv16 for further analysis. Exploratory factor analysis was used to extract the multi item measures, the total variance associated with each factor was assessed and compared with the visual representation on the scree plot for each construct group. Kaiser Normalisation with

varimax rotation was used to rotate the factor loadings to assist the interpretation of the correlation pattern for the selected variables. Tests of reliability analysis were used to assess the correlation between the observed score and the sample as described in (Cramer 2003). OLS regression was then used to estimate the model of NP and to examine the results. Tests for interaction were used to examine the moderating and mediating effect of the independent variables (Baron and Kenny 1986). Finally, the theoretical implications of the results were presented with conclusions as presented in this Chapter.

Relying on SPSSv16 for all the data analysis whilst adequate for this study, did present some difficulties in assessing the interactions effects, in particular calculating the mediation effect of the independent variables, which would have been made easier in using SPSS AMOS or LISREL statistical analysis software packages, due to their greater functionality and additional presentation tools. However, as has been shown in this study, it is certainly possible to complete the multiple regression calculations and calculate the interaction effects to produce the final model of NP using SPSSv16.

**7.7 Summary**

The purpose of this chapter is to reflect on the objective of this research, the significance and value of this study and the implications of the results presented in Chapters 5 and 6. This study is one of the first of its kind to increase the understanding of how business to business networking may be analysed and measured in terms how planned networking activity can influence sales turnover, measured as networking performance.

The research findings were presented and each of the evolved networking constructs were individually discussed in terms of their theoretical implications and relationship on NP. The proposed model of Networking Performance is explained and elaborated upon, with discussion as to its benefits for research and managers.

The discussion then assesses the implications of the research findings for managers and policy advisers, with particular emphasis on the main recommendations for managers wanting to understand the possible benefits of business networking on their organisation. Finally, this chapter reflected on the overall research process, the methodology used and how this evolved by developing a parsimonious model of networking performance using a hybrid research strategy using a qualitative pilot phase, followed by a quantitative phase for the main survey and the implications for researchers.

The conclusions to this research and the contributions to knowledge will be presented together with the limitations and recommendations for future study in Chapter 8.

# Chapter 8

# Conclusion

**Chapter Content**



## 8.0 Introduction

In the previous chapter the results and research findings were discussed from both a theoretical and an operational perspective, with specific recommendations made for managers and policy makers. The research process was reviewed, with a reflection on the methodology used and the practical implications of conducting this research.

In this chapter, the value of this study and the research conclusions are summarised. The empirical, theoretical and methodological contributions are presented, together with a reflection on the unique contribution to knowledge that this study has made. The importance of maintaining an operational perspective on the study is affirmed with the adoption of a hybrid, two-stage qualitative/quantitative research approach used to develop a parsimonious model of networking performance. The findings and conclusions

of this study are presented, with the main contributions of this research summarised below and discussed in this chapter:-

i. Networking Performance is the dependent variable used in this study to measure the economic outcome of business networking, investigated from an operational perspective as a financial contribution to sales turnover.
ii. The study provides a rich source of data on business networking practices and networking outcomes in the West Midlands region of the UK.
iii. The research develops and tests a model of Networking Performance using a quantitative method.
iv. The findings identify *planned networking behaviour* as a new measure of networking performance.
v. The findings confirm *networking intensity* & *strength of relationship* as predictors of networking performance.
vi. The findings also show that *degree of embeddedness* has a mediating effect between *planned networking behaviour* and *networking intensity* in determining networking performance.
vii. The study demonstrates the measurable value for managers of being a member of a business network, with recommendations for achieving positive outcomes from networking.
viii. The study also provides advice and guidance on establishing and managing business networks for policy makers.

In addition to summarising the outcomes and value from this thesis, this chapter presents the main contributions to knowledge and the networks and networking literature domain. The limitations and recommendations from this research are also considered and outlined with the benefit of reflecting on the findings of this study. The resultant implications for researchers, managers and policy makers, together with the recommendations for future research are presented and discussed. Finally, the findings of this study are brought together and the main recommendations are summarised in conclusion to this thesis.

## 8.1 Research Conclusions

The objective of this research was described in Chapter 1 as follows:-

***To develop and test a model of networking performance, identifying the factors linking network theory and positive business outcomes leading to an increase in sales turnover.***

The idea originated from observing the relative success of sales executives developing relationships within their own business networks and thereby gaining a business advantage. It was from this operational perspective and the growing popularity of business networks that the research idea developed and the research question evolved. However, it was noted that many firms ignored the benefits of networking, possibly due to the lack of accountability and suitable measures of performance relating to networking outcomes, which this research seeks to address.

It was from a practical exigency and following a review of extant literature, that a gap in the literature on measuring networking performance was identified. This research sought

to address this gap in networking knowledge by investigating the linkages between networking activities and networking performance. The study also sought to determine whether by adopting a systematic approach to business networking, firms could achieve more positive business outcomes. Finally, the study recognised the opportunity to extend the knowledge of business networking by developing and testing a model of networking performance.

The research question on networking performance coincided with the increasing popularity of business networks and networking. The study of networks and networking within a business environment has been popularised by researchers interested in business networks and networking. Economic policy advisors have been urged by academic researchers to facilitate and promote networks and networking to enhance business performance, with Parkhe et al. (2006, p.250) saying: "networks are quite literally reshaping global business architecture". A review of the extant literature in Chapter 2 suggested that little was known about the association between networking activity and networking performance, providing the impetus for this study. In considering networking ability, Ritter et al. (2004, p.181) suggest the research task is to fine-tune the understanding of networking capabilities, to develop good measures and to empirically examine how they contribute to relationship and network development and firm performance in different relationship and network contexts.

An operational perspective on networking performance was adopted for the survey. Business owners and executives identified as being active members of business networks

were identified and invited to comment on the practical issues surrounding business networking and the outcomes measured in terms of networking performance. The research strategy involved the development of a hybrid approach to understanding and refining the networking constructs, by combining the findings from a qualitative pilot study with the results from the main quantitative survey, to produce a parsimonious model of networking performance.

### 8.1.1 Main research findings

In summarising the pilot study findings, it was evident that the most experienced networkers were also likely to be the most embedded in their respective networks. What was interesting, was that from the sample of twenty, only half had previously considered how they might measure the output from their networking activities. However, once prompted, the majority (seventeen) were able to estimate the value of the business generated from networking activities, estimating values from 20-50% of sales turnover. This gave a level of confidence that a measure of networking performance (NP) based on the percentage of sales turnover attributed to networking was viable as the dependent variable in developing a model. In an assessment of hypotheses, four of the six hypotheses were supported as presented in Table 6.9. The hypotheses found to be significant at the <0.01 level were; *planned networking behaviour, networking intensity, degree of embeddedness* and *strength of relationship*. *Network attractiveness* and *network profile* were not supported.

The results from the OLS regression in Table 6.9 provided support for the majority of the measures used in the development of the hypotheses and the basis for developing a model of networking performance (NP). A number of control variables had been incorporated into the questionnaire based on firm and respondent characteristics. From the analysis, only firm size proved to be significant but the measures could not be used in the model because the findings were not conclusive due to the lack of distinction between the calculated dummy values used in the regression. However, there is evidence that smaller firms achieved a greater proportion of their sales turnover from networking activities, a finding supported in the SME and networking literature (Leek et al. 2002).

In the final model of NP presented at Table 6.11, *networking intensity* and *strength of relationship* were both found to be significant at the <0.01 level. The adjusted R squared value at 0.299 (approximately 30%) is considered a typical model fit for this type of business model incorporating a diverse range of measures and assessing goodness of fit (Kenny 2011). The *F*-Change value increased from 3.958 in Model 1 to 12.957 in Model 3 and is significant.

In analysing the interaction effect between the variables, only *degree of embeddedness* was to prove significant as a partial mediating variable between *planned network behaviour* and NP, and separately between *network intensity* and NP. The significance of embeddedness in actor network relations is recognised by Häkansson (1987) with the extent of its influence on networking outcomes dependent on the nature of the relationships between actor firms and their commitment to create positive outcomes. This

finding was echoed by the practitioner comments in the pilot study which suggested that the more involved managers were in their respective networks, the better the likely outcomes in terms of increased sales turnover.

In summary, the main findings in the survey clearly answer the research question and strongly support the conclusion that firms which implement a systematic approach to business networking do indeed achieve more positive business outcomes such as an increase in sales. This is supported in the model, where it was the more strategic measures concerned with *planned networking behaviour* and *networking intensity* which were significant in determining *networking performance* (NP).

**8.2 Contribution to Knowledge**

The study of networks and networking within a marketing environment has developed over the past four decades to produce a wealth of scholarly knowledge from academics and practitioners following in the networks as markets tradition (Ford et al 2003). Researchers have been encouraged to explore the operational benefits of business networks but relatively few have sought to measure the economic outcomes of business networking. Despite recommendations for further research into the economic outcomes of business networks and the practice of networking, only limited attention has been paid to developing measures of firm performance in relation to business networks (Medlin 2003b; Ritter 2004; Wilkinson and Young 2002).

This study has sought to address this gap in knowledge by identifying the factors most likely to influence positive networking outcomes from an operational perspective, by

conducting an empirical study of the benefits and outcomes of business networking. In the process of investigating the theoretical constructs, identifying networking activities and developing a testable model of Networking Performance. Contributions to knowledge have been identified in two theoretical areas, summarised in the following sections:-

### 8.2.1 Markets as networks

This study commenced with a thorough examination and reflection on the development of the markets as networks literature domain. The antecedents of the markets as networks approach is founded in social network theory and has been widely researched by academics following in the networks as markets tradition. However the IMP approach to understanding networks is not without its critics, both within and outside the research community (Parkhe et al 2006). The IMP through its annual conference and informal network of several hundred researchers has undoubtedly added to the rich domain of networks literature. There are those like Knock (2001) and Snehota (2003) who challenge the network approach for its lack of coherence and seeming underachievement after over three decades, calling for a new network theory to fill the structural gaps in understanding business networks.

This study was originally inspired by the significant contributions from a number of leading academics (Ford 1980; Gadde and Mattsson 1987; Håkansson 1982; Håkansson and Snehota 1989; Turnbull and Cunningham 1981). This study has made no apology for standing apart from the some of the more fashionable IMP research themes, to take a

operationalised view of understanding the economic outcomes from business networks and networking activities. It is this practical perspective on business networks and networking which it is hoped will advance the knowledge of networking performance.

The importance of relationships may have been underestimated in many network studies, with Ford et al. (2003) calling for a better understanding of the importance of relationships. For this reason, the term 'Relationships in Networks' has been used in this study to emphasise the distinction between the earlier interaction approach within markets as networks and the growing recognition that developing relationships has in delivering positive networking outcomes (Henneberg et al. 2006). This study has built on this work by suggesting it is the strength of the relationship in the network which is important in determining networking performance. The study has evaluated the development of networking approaches and the network constructs considered by researchers as influential in understanding markets as networks and therefore assisting the development and testing a model of NP.

### 8.2.2 Networking Performance

The majority of networking studies concentrate on the networking processes, whereas from the outset, this study has focused on networking outcomes and the ensuing benefits for firms engaging in business to business networking. By adopting this approach to measuring networking outcomes, the objective to develop and test a model of networking performance became the impetus for the research study.

The value of this study is that it sought a quantifiable outcome based on the economic benefits of business networking. Through the process of understanding how managers measured the benefits of business networking by seeking a return on investment for time and resources committed to creating and exploiting network opportunities, it became apparent that the economic measure of networking performance based on actual sales turnover was appropriate. Having an economic or financial benefit for this study is seen as a major factor in describing networking performance, a notion supported by (Bonner et al. 2005; Medlin 2003; Ritter et al. 2004; Watson 2007). Researchers have frequently cited difficulties in obtaining financial information from firms as a reason for not pursuing financial performance in networking studies (Iacobucci 1996). From the outset, this study sought a financially based dependent variable and found support in seeking financial measures in measuring marketing performance with (Lehmann 2004; Rust et al. 2004). It was the focus on the perceived economic performance of the network parties relative to expectations in the network that provided the encouragement to seek a financial measure for NP in this study.

However, the confidence in selecting NP as the dependent variable increased following the initial pilot study, where the majority of managers interviewed were able to state what percentage of their firm's sales turnover was attributed to business networking activities. This may only be an estimate or a perception but the finding in both the pilot study and in the main survey, strongly supported this measure of NP. Therefore by establishing Networking Performance based on sales turnover as the dependent variable in this study, this is seen as a major contribution to the ongoing studies in understanding the outcomes

from business networking. In seeking measures of NP, this study found a number of networking constructs which promised to assist in the development of a testable model, as analysed in Chapter 6. One of the challenges in selecting a dependent variable which has no direct comparative study, is that the performance of measures in the final model of NP were largely unknown. However, the development of three independent variables and a mediating variable, together have made a contribution to knowledge:-

***• Planned networking behaviour***

This is a new measure developed from the wider construct of networking behaviour. The identification of *planned networking behaviour* being a refined variable with 3 items proved a reliable predictor of NP in this study, by focusing on the more strategic elements of networking behaviour. It is widely accepted that networking behaviour can influence relationships in networks, being seen as a conditioning process, where positive behavioural traits can affect networking outcomes (Achrol and Kotler 1999; Palmer et al. 1999; Ritter 2002). Respondents in the pilot study noted a preference for a formal structure to networking meeting, which was confirmed with the findings in the main survey. Therefore, by demonstrating a formal or business-like approach to networking, actors in the network found ready support for their networking behaviour by conforming to the structural forms established in the network. This is supported by the findings in Pitterway et al. (2004) where formal behaviour in networks was associated with the most productive outcomes. In the process of understanding and refining the variable, it was found that respondents favoured a more strategic or planned approach evident in their networking behaviour, which led to the creation of this new measure. The identification of

*planned networking behaviour* is seen as an important contribution to knowledge in this study.

- ***Networking intensity***

This is a developed measure recognised as being an important dimension of a network's environment (Aldridge 1979; Gemunden et al. 1996; Lambert et al. 2009). Networking intensity is said to have a positive effect on networking outcomes (Van de Ven 1976). However, networking intensity has been largely ignored by researchers in analysing networking outcomes. In this study, networking intensity, being a measure of the frequency of networking contact, was to prove significant. This finding supports the recommendation from respondents to the qualitative study that frequency of contact with network colleagues is important in determining positive networking outcomes. The significance of networking intensity in determining NP builds on the earlier research by Gemünden et al. (1996) and is supported by Lambert et al. (2009). However, it is also noted that Senneseth (2001) found no direct relationship between networking intensity and growth in sales but does acknowledge a relationship between networking intensity and networking performance. From this study networking intensity is recognised as an important predictor of networking performance and it is hoped that subsequent research will enhance the awareness of this variable and further add to the knowledge of networking intensity in network studies.

• ***Strength of Relationship***

Relationships in networks is an established measure recognised as being an important in creating high performance dyads (Iacobucci 1996). However, in this study it was the strength of the relationship rather than the relationship itself, which was to prove significant in determining NP. This is similar to findings from Ritter et al. (2002), who found that strength of relationship had a direct bearing on a firm's competitive strength and performance. In a later study, Medlin (2003) also found that strength of relationship was significant as a measure of relationship performance and the economic outcome of firm performance.

However, in of the few comparable studies to use network relationships as an independent variable in a quantitative study, Terziovski (2003) did not find the relationship between informal business relationships and business excellence to be significant. It is interesting to speculate whether a more formal or structured approach to network relationships might have found a more significant result. Few researchers have made a distinction between formal and informal relationships in networks when investigating networking outcomes. The more formal or strategic approach to business networking advocated in this study has clearly found an important link between strength of relationship and networking performance.

• ***Degree of Embeddedness***

This is an established measure which has been widely adopted in network studies. Degree of Embeddedness, despite being supported in the analysis of hypotheses at $H_{3a}$ was not

significant as an independent variable in the final model of NP. However, it was to prove significant as a partial mediator between planned networking behaviour and NP and between networking intensity and NP. Although there is some indication of degree of embeddedness having an indirect effect on network outcomes (Andersson and Forsgren 2000), this may be the one of the first studies to show the significance of degree of embeddedness as a mediating variable in determining NP.

What is interesting and significant for researchers is the finding in this study that it is the proactive and planned nature of both planned networking behaviour and networking intensity, together with the mediating effect of degree of embeddedness, that has proved significant in determining NP. This supports the original notion that it is the more strategic approach to business networking that is likely to produce the more positive networking outcomes, such as an increase in sales turnover measured as networking performance.

### 8.3 Limitations and areas for future research

In common with most major research studies of this kind, a number of limitations of this study and areas identified for future research have emerged during the development of this research. Researchers should be aware of the identified limitations and the opportunities for further research and which are considered in reaching a conclusion to this thesis.

### 8.3.1 Development of measures

This study developed a number a number of new measures associated with networking performance and these could therefore be considered exploratory in the way they were applied in this research. The research strategy was to utilise a balance of existing and new measures in the study. The results in the final model of NP support this strategy with *planned networking behaviour* being considered a new measure, with *networking intensity* and *strength of relationship* being extensions of existing measures and *degree of embeddedness* found to have a mediating effect in determining NP.

### 8.3.2 Sample bias

Although the final sample size of 237 is considered perfectly adequate (Kenny 2011), it could be argued that being restricted to the UK and to one region in the West Midlands, the study has no direct geographic comparison. However, cross border studies also have their problems in achieving direct comparisons when business practices and cultural differences may affect the outcome (Alreck and Settle 1995; Easton and Araujo 1994). Further research would be required to make a direct comparison with another region.

Another potential cause of bias in the type of survey is common method bias (CMB) or common method variance (CMV) as the effect is more commonly known (Doty and Glick 1998). Method bias can be a problem if it results in measurement error and therefore affects the validity of empirical results and associated conclusions. CMV is defined as a variance attributable to the measurement method rather than the individual

constructs under consideration. In this study, a number of procedural remedies were applied in the development of the survey instrument and the data collection phase (Podsakoff et al. 2003).

A further problem may be associated with the identification of key informants and the issue key informant competence (Phillips 1981). This was addressed in the survey design by ensuring informants were at director or senior executive level identified by job title, years of service, membership of networking organisations and by personal networking experience. On average the respondents had been a member of a business network for 6 years and on average have been a member of three networking groups, which suggests they are experienced and knowledgeable about the issues surrounding business networking. 73% of respondents were recorded as being as director, managing director, chief executive officer or chairman, indicating a high level of seniority amongst the respondents.

Tests of non-response bias indicate that there were no significant differences between early and late respondents in terms of variables relating to the individual (position, age, gender, networking experience) or to the respondent's firm relating to (sector, geographic location, size or sales turnover).

### 8.3.3 Multilevel network analysis

The analysis in this thesis has been at actor level within a network, where the dyadic relationships are between individual business people, i.e. single level analysis. The

respondents have reported from their individual perspective on the networking outcomes as they might apply to their respective firms. Whereas the same respondents reported they were typically embedded in of an average of three networking groups, each with its own structure of interconnected relationships, identity and sense of purpose. These overlapping network ties are maintained over a period of time, establishing multilevel patterns of network interrelationships (Galaskiewicz 1996). Galaskiewicz is one of a number of researchers to highlight the importance of investigating multilevel network phenomena at the inter-unit and inter-organisation level (Brass et a. 2004).

The application of multilevel network analysis within the markets as networks perspective is adopted to explain variation and at the actor, firm and network level (Medlin 2003b). Medlin uses a quantitative method to elaborate on the relationship performance construct, suggesting that actor bonds are defined as individual constructions about the dyad used to explain cause-effect associations in a multilevel network perspective. It would therefore be appropriate to extend the study of networking performance beyond the actor level used in this thesis to a multi-level perspective. By using a multilevel quantitative analysis and building on the findings from this research, it would be possible to overcome the limitations of a single level study, by gaining a greater understanding of the economic benefits of business networking at the firm, inter-firm and network level in a multilevel study.

### 8.3.4 Recommendations for future study

On conclusion of this research, four areas for possible future study have been identified and are described in the following sections.

***Network attractiveness***

Despite not being supported in this study, the notion of network attractiveness has been identified in a number of networking studies as a precursor to networking success, described by Granovetter (1973) as a desirable quality in networks and by Ellegaard and Ritter (2008) as the mutual attraction between actor in a network. Network attractiveness was also considered important by respondents in the pilot study, as they were able to describe networks in terms of their 'attractiveness'. However, network attractiveness did not prove a reliable measure in this study, possibly due to the structure of Q20 in the questionnaire in Appendix C, from which only two items were used in the analysis. Researchers may like to consider these comments when developing measures of networking attractiveness in the future.

***Organisation size***

As a control variable, organisation size was to prove significant, with a strong suggestion that smaller firms and SMEs were able to generate significantly higher percentages of sales turnover from networking activities than their larger counterparts. Unfortunately the structure of the data in this study meant that the findings were inconclusive but this should not deter researchers from investigating the relationship between organisation size and networking performance in the future.

### *Virtual networks*

A major addition to the practice of business networking over the past decade is the rapid development of the internet and the growth of web-enabled networking applications. These virtual networks include Ecademy (www.ecademy.com), special interest email groups and the use of social networking sites for business, such as Linkedin (www.uk.linkedin.com), Facebook (www.facebook.com) and Twitter (www.twitter.com). The firms at the leading edge of digital communications recognise the benefits of using digital networks, with text, audio, images and video clips being used to exchange ideas and information (Broad 2008).

It is anticipated that the availability of digital technology may not necessarily improve the outcomes of business networking but will certainly increase the speed of networking exchanges. It will be interesting to see how business networks adapt within the digital networking environment and the benefits to networking and networking performance that the new technology will deliver. Researchers may like to reflect on whether the underlying actor-network theory and the markets and networks approach, applies equally to using the new digital networking technologies, as it does to the traditional face to face methods of networking.

### *Networking performance*

Finally, having found theoretical and practical support for the measure of networking performance based on sales turnover in this study, it is hoped that researchers may use

this as the basis for further research into the benefits and outcomes of business networking.

### 8.4 Final Conclusions

The real value of this study is that it has examined the antecedents of networking performance from an operational perspective, which should prove beneficial to managers and academics alike. By adopting the markets as networks approach as a basis for understanding the way business networks are evolving and changing the perception of the effectiveness of business networking, this study will have a resonance with all those with a vested interest in business networks.

This study is one of the largest of its kind to examine factors influencing the outcomes of business networking and is one of a limited number that has done so using a hybrid qualitative and quantitative research methodology. This is considered important as the study is able to demonstrate the value of business networking by developing and testing a model of networking performance. It is hopes that this thesis is recognised for its contribution to knowledge by academics and for its potential commercial value by managers.

The operational focus of the study was extremely important in securing the support of the regional development agency, Advantage West Midlands, and in gaining the confidence of the managers who participated in the initial qualitative study and those who responded to the main postal survey. The overall findings have been supported in the literature and

closely match the perceived benefits of business networks and networking outcomes described by the respondents in the qualitative survey.

The research provides a contribution to the growing business networks domain by providing a large-scale empirical study with a clear focus on networking outcomes and measuring networking performance when measured in terms of increased sales turnover. The data has provided a rich source of information on a business to business networking in the West Midlands and has assisted in the development of a new measure associated with planned networking behaviour and the enhancement of existing measures in creating a testable model of networking performance.

Finally, it is believed that this study has extended prior research by contributing new and valuable insights into the networks and networking literature. The study has provided empirical support for establishing networking performance as a viable measure of based on sales turnover in assessing networking outcomes. For managers questioning the veracity of networking performance, the simple knowledge that in this survey respondents claim that over 25% of their turnover is directly generated by networking activities may encourage firms to look more closely at the benefits of business networking.

## References


Achrol, Ravi S. (1997), "Changes in the theory of interorganisational relations in marketing: Towards a network paradigm," *Journal of the Academy of Marketing Science,* 25 (1), 56-71.

Achrol, Ravi S. and Philip Kotler (1999), "Marketing in the Network Economy," *Journal of Marketing,* 63 (special issue), 146-63.

Aiken, M. and J. Hage (1968), "Organisational interdependence, intraorganisational structure," *American Sociological Review*, 33, 912-30.

Alba, R. D. (1982), "Taking stock of network analysis," *Research in the Sociology of Organisations,* 1, 39-74.

Aldrich, H. E. (1979), Organisations and Environments. Eglewood Cliffs NJ: Prentice Hall.

Aldrich, H. E. and P.R. Reese (1993), Does networking pay off? Mass: Wellesley.

Aldrich, H.E. and C. Zimmer (1986), Entrepreneurship though social networks. Cambridge MA: Ballinger.

Alreck, Pamela L. and Robert B. Settle (1995), The Survey Research Handbook (2nd ed.). New York: McGraw-Hill.

Anand, B.N. and T. Khanna (2000), "Do firms learn to create value? The case of alliances," *Strategic Management Journal*, 21, 295-315.

Anderson, James C. and Håken Håkansson (1994), "Dyadic Business Relationships within a Business Network Context," *Journal of Marketing*, 58 (4), 15.

Anderson, Marshal B (1999), "Innovations in Social Science Research," *American Sociology Review,* 85, 745-793.

Andersson, Ulf and Mats Forsgren (2000), "In Search of Centre of Excellence: Network Embeddedness and Subsidiary Roles in Multinational Corporations," *Management International Review,* 40, 329-50.

Araujo, Luis (2004), "Markets, Market Making and Marketing," in Proceedings of the 20th Industrial Marketing and Purchasing (IMP) Conference. Copenhagen, Denmark.

Araujo, Luis and Geoff Easton (1996), "Networks in Sociometric Systems," in *Networks in Marketing*, Dawn Iacobucci, ed. Thousand Oaks: Sage Publications.

Argent, L. and Janet W. Salaff (2003), "Social Networks and Entrepreneurship," *Entrepreneurship Theory and Practice*, 28 (1), 1-22.

Awuah, G. (2001), "A Firm's Competence Development through its Network of Exchange Relationships," *Journal of Business and Industrial Marketing*, 16 (6/7), 574-99.

Axelsson, Bjorn and Geoff Easton (1992), Industrial Networks, A New View of Reality. London: Routledge.

Backstrom, Charles H. and G. D. Hursch (1963), Survey Research. Evanston IL: Northwestern University Press.

Bagozzi, Richard P. (1975), "Marketing as an Exchange," *Journal of Marketing*, 39 (4), 32-39.

Baker, Wayne. (1984), "The social structure of the national securities market," *American Journal of Sociology*, 89, 775-811.

Baker, Wayne (1992), The Network Organisation in Theory and Practice. Boston MA: Harvard Business School Press.

Baron, Reuben M and David A Kenny (1986), "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, strategic and Statistical Considerations," *Journal of Personality and Social Psychology*, 51 (6), 1173-82.

Best, M. (1990), The New Competition. MA: Harvard University Press.

Birley, Susan (1985), "The Role of Networks in the Entrepreneurial Process," *Journal of Business Venturing*, 1, 107-17.

Blau, A.P. and J.E. Schwartz (1984), The Structure of Organisations. New York: Academic Press.

Bonacich, P (2007), "Some unique properties of eigenvector centrality," *Social Networks*, 3 (3), 175-96.

Bonacich, P and G. W. Domhoff (1981), "Latent classes and group membership," *Social Networks*, 3 (3), 175-96.

Bonner, J.M., D. Kim, and S.T. Cavusgil (2005), "Self perceived strategic network identity and its effects on market performance," *Journal of Business*, 2005 (58), 1371-80.

Borders, Aberdeen Leila, Wesley J. Johnston, and Edward E. Rigdon (2001), "Beyond the Dyad: Electronic Commerce and Network Perspectives in Industrial Marketing Management," *Industrial Marketing Management*, 30 (2), 199-205.

Boyd, Harper W., Ralf Westfell, and Stanley F. Stasch (1977), Marketing Research - text and cases. Homewood IL: Irwin Inc.

Brass, D.J., J Galaskiewicz, H.R. Greve, and W. Tsai (2004), "Taking stock of networks and organisations: a multi level perspective," *Academy of Management Journal*, 47 (6), 795-817.

Broad, Roy M. (2008), "Networked-in; developing a model of network marketing performance," in 24th Annual IMP Conference. Uppsala, Sweden.

Broad, Roy M. (2009), "Survey on the Benefits of Networking for Business in the West Midlands." Birmingham: Advantage West Midlands.

Brodie, Roderick J., Nicole E. Coviello, Richard W. Brookes, and Victoria Little (1997), "Towards a Paradigm Shift in Marketing? An Examination of Current Marketing Practices," *Journal of Marketing Management*, 13, 383-406.

Bryman, Alan (1988), Quantity and Quality in Social Research. London: Routledge.

Bryman, Alan (1994), Doing Research in Organisations (2nd ed.). London: Routledge.

Bryman, Alan and Emma Bell (2004), Business Research Methods. New York: Oxford University Press.

Bryman, Alan and Duncan Cramer (1999), Quantitative Data Analysis (1st ed.). London: Routledge.

Bryman, Alan and Duncan Cramer (2005), Quantitative Data Analysis with SPSS 12 and 13 (1st ed.). London: Routledge.

Buchel, Bettina and Steffen Raub (2002), "Building Knowledge - Creating Value Networks," European Management Journal, 20 (6), 587-96.

Burg, Bob (1999), Endless Referrals: Network Your Everyday Contacts into Sales (2nd ed.). Jupitor Fl: McGraw Hill.

Burt, R. S. (1980), Co-optive corporate actor networks: a reconsideration of interlocking directories involving American manufacturing, *Administrative Science Quarterly,* 25, 557-82.

Bush, G.P. and L.H. Hattery (1951), Federal recruitment of Junior Engineers, *Organisation Science*, 114 (2966), 456.

Carnegie, Dale (1934), How to win friends and influence people: Simon & Schuster.

Carson, David, Stan Cromie, Pauric McGowan, and Jimmy Hill (1995), Marketing and Entrepreneurship in SME's (1st ed.). Harlow: Pearson Education.

Castels, Manuel (1996), The Rise of the Network Society (1st ed.). Oxford: Blackwell.

Chell, Elizabeth (2000), "Networking, Entrepreneurship and Microbusiness Behaviour," *Entrepreneurship and Regional Development*, 12 (3), 195-216.

Child, John and David Faulkner (1998), Strategies of Co-operation (1st ed.). Oxford: Oxford University Press.

Chin, Wynne W., Barbara L. Marcolin, and Peter R. Newsted (1996), "A partial least squares latent variable modelling approach for measuring interaction effects: results from a mote carlo simulation study," in Seventh International Conference on Information Systems, Sirkka Jarvenpaa (Ed.). Cleveland, Ohio.

Chisnell, Peter (2001), Marketing Research (6th ed.). Maidenhead: McGraw-Hill.

Clancy, K.J. and R.L. Stone (2005), "Don't blame the metrics," Harvard Business Review, 83 (6), 26-28.

Clutterbuck, David (1978), Everyone Needs a Mentor (1st ed.). London: IPD.

Coleman, Daniel (1996), Emotional Intelligence (1st ed.). London: Bloomsbury.

Collinson, Elaine and Eleanor Shaw (2001), "Entrepreneurial Marketing - A Historic Perspective on Development and Practice," *Management Decision*, 39 (9), 761-66.

Cook, Karen S. and Richard M. Emerson (1984), "Exchange networks and the analysis of complex organisations," *Research in the Sociology of Organisations* (3), 1-30.

Cook, Karen S. and Richard M. Emerson (1987), Social Exchange Theory. London: Sage Publications.

Cooper, A.C., F.J. Gimeno-Gascon, and C Woo, Y, (1994), "Initial Human and Financial Capital Predictors of New Venture Performance," *Journal of Business Venturing*, 9 (5), 371-95.

Cooper, Donald R. and Pamela S. Schindler (2003), Business Research Methods: McGraw-Hill.

Corviello, N. E. and H. J. Munro (1995), "Growing the entrepreneurial firm: networking for international market development," *European Journal of Marketing*, 29 (7), 49-61.

Covey, Stephen R. (1992), The Seven Habits of Highly Effective People (1st ed.). London: Simon and Schuster.

Cramer, Duncan (2003), Advanced Quantitative Data Analysis. Maidenhead: Open University Press.

Creswell, John W. (1998), Qualitative Inquiry and Research Design (1st ed.). London: Sage Publications.

Creswell, John W. (2003), Research Design (2nd ed.). Thousand Oaks: Sage Publications Inc.

Cross, Rob and Laurence Prusak (2002), "The People Who Make Organizations Go or Stop," Harvard Business Review, 80 (6), 105-12.

Cryer, Pat (2000), A Research Student's Guide to Success. Buckingham: Open University Press.

Davis, Gordon B. and Clyde A. Parker (1997), Writing the Doctoral Dissertation. New York: Barron's Education Series Inc.

Davis, Michael (1999), Ethics and the University (1st ed.). New York: Routledge.

Dawes, Philip L and Graham R Massey (2005), "Antecedents of conflict in marketing's cross-functional relationship with sales," *European Journal of Marketing*, 39 (11/12), 1327-44.

Dawes, Philip L. (1987), "Snowball Sampling in Industrial Marketing," *Australian Marketing Researcher*, 11 (June), 26-35.

Dawes, Philip L. and Don Y. Lee (1996), "Communication Intensity in Large-Scale Organisational High Technology Purchasing Decisions," *Journal of Business to Business Marketing* 3(3), 3-44.

Dawes, Philip L., Don Y. Lee, and Grahame R. Dowling (2000), "Informal Information Control in Complex Technological Purchase Situations," *Journal of High Technology Management Research*, 10 (2), 377-402.

Dawes, Philip L., Don Y. Lee, and Grahame R. Dowling (1998), "Information Control and Influence in Emergent Buying Centres," *Journal of Marketing*, 62, 55-68.

Dawes, Philip L. and Graham R. Massey (2006), "A study of relationships effectiveness between marketing and sales managers in business markets," *Journal of Business & Industrial Marketing*, 21 (6), 346-60.

Dawes, Philip L., Paul G. Patterson, and David F. Midgley (1997), "Involvement of Technical Consultants in High Technology Markets," *Journal of Business and Industrial Marketing*, 12 (2), 83-102.

De Geus, Arie (1997), The Living Company (1st ed.). London: Nicholas Brealey.

De Propris, Lisa (2000), "Innovation and Inter-firm Co-operation: The Case of the West Midlands," Economies of Innovation and New Technology, 9 (5), 421-247.

Dennis, Cheryl (2000), "Networking for Marketing Advantage," *European Journal of Marketing*, 29 (13), 23-41.

DeRaffele, Frank J. and Edward D. Hendricks (1988), Successful Business Networking. Worcester: Chandler House Press.

Deutskens, Elisabeth, Ko de Ruyter, and Martin Wetzeis (2006), "An Assessment of Equivalence Between Online and Mail Surveys," *Journal of Service Research*, 8 (4), 346-55.

Dodd, S. and E Patra (2000), "National Differences in Entrepreneurial Networking." Aberdeen: University of Aberdeen.

Donckels, R and J Lambrecht (1995), "Networks and Small Business Growth: an explanatory model," *Small Business Economics*, 7 (4), 273-89.

Doty, D. Harold and William H. Glick (1998), "Methods Variance Really Bias Results," *Organizational Research Methods*, 1 (4), 374-406.

Doyle, Peter (1995), "Marketing in the New Millennium," *European Journal of Marketing*, 29 (13), 23-41.

Dubini, P. and H. Aldrich (1991), "Personal and extended networks are critical to the entrepreneurial process," *Journal of Business Venturing* (6), 305-13.

Easterby-Smith, M, R Thorpe, and A Lowe (1996), Management Research London: Sage.

Easton, Geoff (1992), Industrial Networks : a review. London: Routledge.

Easton, Geoff and Luis Araujo (1994), "Market Exchange, Social Structures and Time," *European Journal of Marketing,* 28 (3), 72-84.

Eccles, Robert G. and Dwiht B. Crane (1988), Doing Deals: Investment Banks at Work (1st ed.). Cambridge MA: Harvard Business School Press.

Echambadi, Raj and James D. Hess (2007), "Mean-Centering Does Not Alleviate Collinearity *roblems in Moderated Multiple Regression Models," *Marketing Science*, 26 (3), 438-45.

Eisenhardt, K. and L. Martin (2000), "Dynamic capabilities: what are they?," *Strategic Management Journal,* 21, 1105-21.

Ellegaard, Chris and Thomas Ritter (2008), "Attractiveness in Business markets," in 24th Industrial Marketeting and Purchasing Conference. Manchester.

Ellis, Nick, Michel Rod, Tim Beal, and Val Lindsay (2012), "Constructing identities in Indian networks: Discourses of marketing management in inter-organisationional relationships," *Industrial Marketing Management*, 41, 402-12.

Emerson, Richard M. (1982), "Social Exchange Theory," in *Social Psychology : Sociological Perspectives*, M Rosenberg and R Turner, eds. New York: Basic Books.

Emerson, Richard M. (1981), "Social Exchange Theory," in *Social Psychology: Sociological Perspectives*. New York: Basic Books.

Evans, Joel R. (2005), "The value of online surveys," *Internet Research*, 15 (2), 195-219.

Flaherty, Karen, Son K. Lam, Nick Lee, Jay Prakesh Mulki, and Andrea L. Dixon (2012), "Social Network Theory and the Sales Managers Role: engineering the right relationship flows," J*ournal of Personal Selling and Sales Management*, 1, 29-40.

Fleming, Will, Leigh Jenkins, and Hilary Main (2001), "Viral Marketing - Is it Word of Mouth?," in Proceedings of the Academy of Marketing Conference on Viral Marketing. London.

Florin, J., M. Lubatkin, and W. Schulze (2003), "A social capital model of high growth ventures," *Academy of Management Journal,* 46 (3), 374-84.

Ford, David (1980), "The Development of Business Relationships in Industrial Markets," *European Journal of Marketing*, 14, 291-353.

Ford, David (2002), "Distribution, Internationalisation and Networks," International Marketing Review, 19 (3), 225-35.

Ford, David, Laas-Eric Gadde, Haken Hakansson, and Ivan Snehota (2002), "Managing Networks," in Proceedings in the18th Annual Industrial Marketing and Purchasing (IMP) Conference. Perth, Australia.

Ford, David, Lars-Eric Gadde, Haken Hakenson, and Ivan Snehota (1998), Managing Business Relationships (1st ed.). London: Wiley.

Ford, David, Lars-Eric Gadde, Haken Hakenson, and Ivan Snehota (2003), Managing Business Relationships (2nd ed.). Chichester: Wiley & Sons.

Ford, David and Håken Håkansson (2006), "IMP - some things achieved: much more to do," *European Journal of Marketing*, 40 (3/4), 248-58.

Freis, Judy K., Tasadduq Shervani, and Rajendra K. Shrivastava (2003), "The Integrated Networks Model: Explaning Resource Allocations in Network Markets," *Journal of Marketing* (67), 29-45.

French, Robert and Andrew Hall (2002), The Handy Guide to Networking (1st ed.). Tunbridge Wells: Sycamore Publishing.

Frenzen, J and K. Nakamoto (1993), "Structure, Co-operation and the Flow of market information," *Journal of Consumer Research*, 20, 360-75.

Gadde, Laas-Eric and Lars-Gunnar Mattsson (1987), "Stability and Change in Network Relationships " *International Journal of Research in Marketing*, 4, 29-41.

Gadde, Laas-Erik and Hakan Hakansson (2007), "Business Relationships and Resource Combining," The IMP Journal, 2 (1), 31-45.

Galaskiewicz, Joseph (1985), "Professional networks and Institutionalisation " *American Sociology Review*, 50, 693-58.

Galaskiewicz, Joseph (1996), "The New Network Analysis," in *Networks in Marketing*, Dawn Iacobucci, ed. Thousand Oaks CA: Sage Publications.

Gargiulo, M and M Benassi (2000), "Trapped in your own net? Network cohesion, structural holes and social capital," *Organisation Science*, 11 (2), 183-96.

Garnett, James L., Justin Marlowe, and Sanjay K. Pandey (2008), "Penetrating the Performance Predicament: Communication as a Mediator or Moderator of Organisational Culture's Impact on Performance," *Public Administration Review*, April 2008, 266-81.

Gemünden, Hans G, Thomas Ritter, and Peter Heydebreck (1996), "Network configuration and innovation success: an empirical analysis in German hight-tech industries," *International Journal of Research in Marketing*, 13 (5), 449-62.

Gill, J and P Johnson (1991), Research methods for marketing. London: Chapman.

Gilmore, Audrey, David Carson, and Ken Grant (2001), "SME Marketing in Practice," *Marketing Intelligence and Planning,* 19 (1), 6.11.

Goodman, Leo A (1961), "Snowball Sampling," Annals of Mathematical Statistics, 32, 148-70.

Granovetter, Mark (1985a), "Economic action and social structure: the problem of embedded edition," *American Journal of Sociology*, 91, 481-510.

Granovetter, Mark (1985b), "Economic Action and the Problem of Embeddedness," *American Journal of Sociology*, 91 (3).

Granovetter, Mark (1976), "Network Sampling: Some first steps," *American Journal of Sociology*, 81 (6), 1287-303.

Granovetter, Mark (1978), "Networks of Collective Action: A perspective on community influence systems," *American Journal of Sociology*, 83 (6), 1538-42.

Granovetter, Mark (1973), "The Strength of Weak Ties," *American Journal of Sociology*, 78, 1360-80.

Grant, R.M. (1991), "The resource based theory of competitive advantage: implications for strategy formulation," *Californian Management Review*, 33, 114-35.

Greenfield, Tony (2002), Research Methods for Postgraduates (2nd ed.). London: Arnold.

Greve, Arent and Janet W. Salaff (2003), "Social Networks and Entrepreneurship," *Entrepreneurship: Theory and Practice,* 28 (1), 22.

Gronroos, C. (1994), "From Marketing Mix to Relationship Marketing: Towards a Paradigm Shift," *Marketing Management Decision*, 32 (2), 4-20.

Gulati, R, N Nohria, and A Zaheer (2000), "Strategic Networks," *Strategic Management Journal*, 21, 201-15.

Gummesson, Evert (1995), "Relationship Marketing," *European Journal of Marketing*, 29 (5), 76-78.

Gummesson, Evert (2008), Total Relationship Marketing. Burlington MA: Butterworth Heinemann.

Hackim, C (1987), Research Design; strategies and choices in the design of social research. London: Allen and Unwin.

Håkansson, Håken Ed. (1987), Industrial Technology Development: A Network Approach. London: Croom Helm.

Håkansson, Håken (1982), International Marketing and Purchasing of Industrial Goods: An Interaction Approach. Chichester: John Wiley and Sons Ltd.

Håkansson, Håkan and Jan Johanson (1993), "The network as a governance structure," in *The Embedded Firm - on the socioeconomics of industrial networks*, Ggernot Grabher, ed. London: Routledge.

Håkansson, Haken and Ivan Snehota (1989), "No Business is an Island: The Network Concept of Business Strategy," *Scandinavian Journal of Management*, 5 (3), 187-200.

Håkansson, Håken and Ivan Snehota (1995), Developing Relationships in Business Networks. London: Routledge.

Hansen, M.T. (1999), "The role of weak ties in sharing knowledge across organisational subunits," *Administrative Science Quarterly*, 44 (1), 81-111.

Hart, Chris (1998), Doing a Literature Review. London: Sage Publications.

Hayes, Andrew F. (2009), "Beyond Baron and Kenny: Statistical Mediation Analysis in the New Millennium," *Communication Monographs*, 76 (4), 408-20.

Haynes, Per-Anders and Knut Senneseth (2001), "A panel Study of Firm Growth among SMEs in Networks," *Small Business Economics*, 16, 293-302.

Healy, Marilyn, Kathleen Hastings, Les Brown, and Michael Gardiner (2001), "The Old, the New and the Complicated: A Triology of Marketing Relationships," *European Journal of Marketing,* 35 (1), 182-93.

Hempel, Carl Gustaf (1959), The Logic of Functional Analysis. New York.

Henneberg, Stephan, Stephanos Mouzas, and Peter Naude (2006), "Network Pictures - Concepts and Representations," *European Journal of Marketing*, 40 (3/4), 408-29.

Hoang, H. and B. Antoncic (2003), "Network based research in entrepreneurship," *Journal of Business Venturing*, 18, 165-87.

Hollenbeck, Candice R., George M. Zinkhan, Warrren French, and Ji Hee Song (2009), "E-Collaborative Networks: a case study on the new role of the salesforce," *Journal of Personal Selling and Sales Management*, 2, 125-36.

Holm, Desiree B., Kent Eriksson, and Jan Johanson (1996), "Business Networks and Cooperation in International Business Relationships," *Journal of International Business Studies*, 27 (5).

Holmlund, Maria and Jan-Ake Törnroos (1997), "What are Relationships in Business Networks?," *Management Decision*, 35 (4), 304-09.

Huemer, Lars, Manuel Becerra, Randi Lunnan (2004), "Organisational identity and network identification: relating within beyond imaginary boundaries" *Scandinavian Journal of Management,* 20 (1-4), 53-73.

Human, Gert and Thomas Ritter (2007), "Measuring Network Competence in an Emerging Market," in 23rd IMP Conference. Manchester.

Hung, S.C. (2002), "Mobilising networks to achieve strategic difference," *Long Range Planning,* 35 (6), 591-613.

Hunt, Shelby D, Richard D. Jr Sparkman, and James B. Wilcox (1982), "The Pretest Survey Reseach: Issues and Preliminary Findings," *Journal of Marketing Reseach*, 19, 267-73.

Hustedde, R.J. and G.C. Pulver (1992), "Factors affecting capital aquisition," *Journal of Business Venturing,* 7 (5), 363-74.

Iacobucci, Dawn Ed. (1996), Networks in Marketing (1st ed.). Thousand Oaks CA: Sage Publications.

Iacobucci, Dawn and Gilbert A. Churchill (2002), Marketing Research Methodological Foundations (8th ed.). Orlando FL: Harcourt.

Iacobucci, Dawn and Nigel Hopkins (1992), "Modeling dyadic interactions and networks in marketing," *Journal of Marketing Reseach*, 29 (1).

Ibarra, Herminia (1993), "Network Centrality, Power and Innovation Involvement: Determinants of Technical and Admististrative Roles," *Academy of Management Journal,* 36 (3), 471-501.

IMP (2009), "About the IMP Group," (accessed 27.06.10, 2009), [available at http://www.impgroup.org/about.php].

Irwin, Julie R. and Gary H. McClelland (2001), "Misleading Heuristics and Moderated Multiple Regression Models," *Journal of Marketing Research*, 38, 100-09.

Jaccard, James, Choi K. Wan, and Robert Turrisi (1990), "The Detection and Interpretation of Interaction Effects Between Continuous Variables in Multiple Regression," *Multivariate Behavioral Research*, 25 (4), 467-78.

Jankowicz, A. D. (1995), Business Research projects. London: Chapman Hall.

Jiang, Zhizhong, Stephan Henneberg, and Peter Naude (2009), "Relationships in Business Markets: An Empirical Examination of Trust, Reliance and Commitment," in 25th Annual IMP Conference. Marseille.

Johannisson, B (1988), "Business formation: A network approach," *Scandinavian Journal of Management,* 4 (3/4), 83-99.

Johanson, J and L G Mattsson (1992), Network Positions and Strategic Action - an analytical framework, in Axelsson, B and Easton, G. (Eds), Industrial Networks: A New View of Reality, Routledge, London, 205-17.

Julien, P. (1993), "Small business as a research subject: reflections on knowledge of small business," *Small Business Economics*, 5 (2), 157-66.

Kalantardis, Christos (2009), "SME Strategy, Embeddedness and Performance in East Cleveland, North East England," *International Small Business Journal*, 27 (4), 496-521.

Kale, S.H., J.H Dyer, and H. Singh (2002), "Alliance capability, market response and long term alliance success," *Strategic Management Journal*, 23, 747-67.

Kandemir, Destan, Attila Yaprak, and S. Tamer Cavusgil (2006), "Alliance Orientation: Conceptualization, measurement, and impact on market performance," *Journal of the Academy of Marketing Science*, 34 (3), 324-40.

Kelly, R. (1998), Star Performer (1st ed.). London: Orian Business Books.

Kenny, David A (2011a), "Measuring Model Fit," [available at www.davidakenny.net/cm/fit].

Kenny, David A (2009a), "Moderator variables," (accessed 01.06.11, 2011), [available at www.davidakenny.net/cm/moderation].

Kenny, David A (2011b), "Multiple Regression," [available at www.davidakenny.net/cm/mr.htm].

Kenny, David A. (2009b), "Measuring Mediation or the Indirect Effect," (accessed 01.06.11, 2011), [available at www.davidakenny.net/cm/mediate].

Knoke, D. (2001), Changing Organisatiuons: Business networks in the new political economy. Boulder: Westview Press.

Kothandaraman, Prabakar and David T. Wilson (2001), "The Future of Competition: Value Creating Networks," *Industrial Marketing Management*, 30 (4), 379-89.

Kotler, Philip and Gary Armstrong (1999), Principles of Marketing (8th ed.). Upper Saddle River NJ.

Kustin, Richard and Robert A. Jones (1995), "A Study of Direct Selling Perceptions in Australia," *International Marketing Review,* 12 (6), 60-67.

Lambert, Tracy A, Lilian T Eby, and Melisa P Reeves (2009), "Predictors of networking intensity," *Journal of Career Development*, 35, 228-47.

Lane, C. and R. Bachmann (1996), "The Social Constitution of Trust," Organisational Studies, 17 (3), 365-95.

Larson, A (1992), "Network dyads in entrepreneurial settings: as study of governance of exchange relationships," *Administrative Science Quarterly*, 37, 76-104.

Law, J. (1992), "Notes on a theory of actor-network," *Systems Practice*, 5, 379-93.

Law, J. (1994), Organising Modernity. Oxford: Blackwell.

Leek, Sheena, Peter W. Turnbull, and Peter Naude (2002), "Managing Business to Business Relationships," in Proceedings in the 18th Annual Industrial Marketing and Purchasing (IMP) Conference. Dijon, France.

Lehmann, Donald R. (2004), "Linking Marketing to Financial Performance and Firm Value," *Journal of Marketing*, 68, 73-75.

Lehmann, Donald R. (1979), Market Research and Analysis. Homewood IL: Irwin Inc.

Li, P.C. and B.W. Lin (2006), "Building global logistics network competence," Technology in Society, 28, 333-48.

Llieva, Janet, Steve Baron, and Nigel M. Healey (2002), "Online surveys in marketing research: pros and cons," *International Journal of Market Research*, 44 (3), 361-76.

Locket, J. (1999), Powerful Networking (1st ed.). London: Orion Business Books.

Lubinski, David and Lloyd G. Humphreys (1990), "Assessing Spurious Moderator Effects: Illustrated with the hypothised relation between spatial and mathematical ability," *Psychological Bulletin*, 107 (3), 385-93.

Lynch, Nicola, Helena Lenihan, and Mark Hart (2009), "Developing a framework to evaluate business networks: the cas of Ireland's industry-led network initiative," *Policy Studies,* 30 (2), 163-80.

Machold, Silke, Morten Huse, Alessandro Minichilli, and Mattias Nordqvist (2011), "Board Leadership and Strategy Involvement in Small Firms: A Team Production Approach," *Corporate Governance*, 19 (4), 368-83.

Mariolis, M. S., P. Schartz, and R. Mintz (1986), "Techniques for Disaggregatring Centrality Scores in Social Networks," *Sociological Methodology*, 16 (1), 26-48.

Marshall, C and G B Rossman (1995), Designing Qualitative Research. London: Sage.

Mattsson, Lars-Gunnar. (1985), An application of a network approach to marketing. Greewich CT: JAI.

Mattsson, Lars-Gunnar (2003), "Understanding Market Dynamics; potential contributions to marketing studies from actor-network theory," in Industrial Marketing and Purchasing Group. Lugano.

Mattsson, Lars-Gunnar (1997), "Relationship Marketing and the Networks as Markets Approach - a comparative analysis," *Journal of Marketing Management*, 13, 447-61.

May, T (1997), Social research, issues, methods and process. Buckingham: Open University Press.

McLoughlin, Damien and Conor Horan (2000), "Business Marketing: Perspectives from the Markets as Networks Approach," *Industrial Marketing Management,* 29 (4), 285-92.

McNeill, P (1990), Research Methods. London: Routledge.

Medland, A (2011), "Portrait of the West Midlands," in Regional Trends. London: Office for National Statistics.

Medlin, Christopher J. (2005a), "A collaborative interest model of relational coordination and empirical results," *Journal of Business Research*, 58 (2), 214-22.

Medlin, Christopher J. (2003a), "A Dyadic Research Program: The Interaction Possibility Space Model," *Journal of Business to Business Marketing*.

Medlin, Christopher J. (2003b), "Relationship Performance: a Relationship Level Construct," in Proceedings in the 19th Annual Industrial Marketing and Purchasing (IMP) Conference. Lausanne, Switzerland.

Medlin, Christopher J. (2005b), "Self and Collective Interest in Business Relationships," in Proceedings in the 21st Annual Industrial Marketing and Purhasing (IMP) Conference. Rotterdam, Netherlands.

Medlin, Christopher J. and Kristian Moller (2009), "Capital Investment and Network Logic," in 25th Annual IMP Conference. Marseille.

Miles, Raymond E. and Charles C. Snow (1986), "Organisations: New Concepts for New Forms," *California Management Review*, 28, 62-73.

Miller, Nancy J., Terry Besser, and Avnash Mmaishe (2007), "Strategic Networking among small businesses in small US communities," *International Small Business Journal*.

Mishler, E. G. (1986), Research Interviewing. London: Harvard University Press.

Misner, I R (2010), "Changing the way the world does business," (accessed 25 May 2010, 2010), [available at www.bni.eu].

Misner, Ivan (1996), Seven Second Marketing (1st ed.). 1996: Bard Press.

Misner, Ivan (1994), The World's Best Known Marketing Secret (1st ed.). Austin: Bard Press.

Misner, Ivan and Robert Davis (1998), Business by Referral (1st ed.). Austin: Bard Press.

Misner, Ivan and Don Morgan (2000), Masters of Networking (1st ed.). New York: Bard Press.

Mole, Kevin and Les Worrall (2001), "Innovation, business performance and regional competiteness in th West Midlands: evidence from the West Midlands Business Survey," *European Business Review*, 13 (6), 353-64.

Möoller, Kristian K. and Aino Hallien (1999), "Business Relationships and Networks," *Industrial Marketing Management*, 28 (5).

Möller, Kristian K. and Senja Svahn (2003), "Managing Strategic Nets - A Capability Perspective," *Marketing Theory*, 3 (2), 201-26.

Moorman, C., R Deshpande, and G. A. Zaltman (1993), "Factors affecting trust in network relationships," *Journal of Marketing*, 57 (January), 81-102.

Moran, P. (2005), "Structural vs Relational Embeddedness," *Strategic Management Journal*, 26, 1129-51.

Morgan, Robert M. and Shelby D. Hunt (1994), "The Commitment-Trust Theory of Relationship marketing," *Journal of Marketing,* 58 (July), 20-36.

Moriarty, Roland T. (1983), Industrial Buying Behaviour. Lexington MA: D C Heath.

Moriarty, Roland T. and Robert E. Spekman (1984), "An Empirical Investigation of Information Sources used during the Industrial Buying Process," *Journal of Marketing Research,* 21 (May), 137-47.

Morris, Clare (2003), Quantitative Approaches in Business Studies (6th ed.). Harlow: Pearson Education.

Morse, Janice M (1994), Qualitative Research Methods. San Francisco: Sage Publications.

Moss, K. (1997), World Class (1st ed.). London: Simon and Schuster.

Mouzas, Stephanos, Stephan Henneberg, and Peter Naude (2004), "Developing Network Insight," in Proceedings in the 20th Annual Industrial Marketing and Purchasing (IMP) Conference. Copenhagen, Denmark.

Msweli, Pamela and Adrian Sargeant (2001), "Modelling Distributor Retention in Network Marketing Organisations," *Marketing Intelligence and Planning,* 19 (7), 507-14.

Negandhi, A.H. (1980), Interorganisation Theory. Kent OH: Kent State University Press.

Nohria, Nitin and Rober G. Eccles (1992), Networks and Organisations, Structures, Forms and Action. Boston MA: Harvard Business School Press.

Norusis, Marija J (2008), SPSS 16.0 Statistical Procedures Companion. Upper Saddle River NJ: Prentice Hall.

Nulty, Duncan N. (2008), "The adequacy of response rates to online and paper surveys: what can can be done," Assessment & Evaluation in Higher Education, 33 (3), 301-14.

O'Donnell, Aodheen and Darryl Cummins (1999), "The Use of Qualitative Methods to Research Networking in SME's," *Qualitative Market Research*, 2 (2), 82-91.

O'Donnell, Aodheen, Audrey Gilmore, Darryl Cummins, and David Carson (2001), "The Network Construct in Entrepreneurship Research," *Management Decision*, 39 (9), 749-60.

ONS (2008), "Office for National Statistics."

Ostler, George (1994), Oxford Dictionary. Oxford: Clarendon Press.

Ottesen, Geir G., Lene Foss, and Kjell Gronhaug (2004), "Exploring the Accuracy of SME Managers' Network Perceptions," *Management Decision*, 38 (5/6), 593-607.

Overby, J.W. and S. Min (2001), "A network orientated approach to markerting," *International Marketing Review*, 18, 392-420.

Pages, Eric R. and Garmise Shari (2003), "The Power of Entrepreneurial Networking," *Economic Development Journal*, 2 (3), 20-31.

Palmer, Joy and Ian Richards (1999), "Get knetted: networkj behaviour in new economy," *Journal of Knowledge Management*, 3 (3), 191-202.

Paltridge, Brian (2002), "English for Specific Purposes," *English for Specific Purposes*, 21 (2), 125-43.

Parkhe, Arvind, Stanley Wasserman, and David A. Ralston (2006), "New Frontiers in Network Theory Development," *Academy of Management Review*, 31 (3), 560-68.

Patterson, Paul G. and Philip L. Dawes (1999), "The Determinants of Choice Set Structure in High Technology Business Markets," *Industrial Marketing Management*, 28 (4), 395-411.

Patton, M Q (1990), Qualitative evaluation and research methods (2nd ed.). Newbury Park CA: Sage.

Perry, Chad (1998), "A Structured Approach to Presenting Theses," *Australasian Marketing Journal,* 6 (1), 63-86.

Peters, Tom (1995), The Pursuit of Wow (1st ed.). London: Macmillan.

Pfeffer, J and Salancik G R (1978), The external control of organisations: A resource dependence perspective. New York: Harper and Row.

Pfeffer, J. and G. R. Salancik (1974), "Organisational decision making as a political process," *Administrative Science Quarterly*, 19, 135-51.

Phillips, Estelle M. and Derek S. Pugh (2001), Hopw to get a PhD. Buckingham: Open University Press.

Phillips, L.W. (1981), "Assessing measurement error in key informant reports: a methoodoligical note organisational analysis in marketing," Journal of Marketing Research, 18, 395-415.

Pittaway, Luke, Maxine Robertson, Kamal Munir, David Denyer, and Andy Neely (2004), "Networking and Innovation: a systametic review of the evidence," *International Journal of Management Review,* 5 (4-4), 137-68.

Podsakoff, Philip M., Nathan P.Podsakoff, Scott B.McKensie, and Jeong-Yeaon Lee (2003), "Common Method Bias in Behavioural Research: A Critical Review of Literature and Recommended Remedies," *Journal of Applied Psychology*, 88 (5), 879-903.

Poe, Richard (1995), The New Era in Network Marketing (1st ed.). Rocklin CA: Prima Publishing.

Polidoro, Francisco, Gautam Ahuja, and Will Mitchell (2011), "When the Social Structure Overshadows Competitive Incentive: The effects of Network Embeddedness on Joint Venture Disolution," *Academy of Management Journal*, 54 (1), 203-23.

Powell, W.W. (1990), "Neither network or hierarchy: network forms of organisation," Research in Organisational Behaviour, 12, 295-336.

Prahalad, C.K. and G. Hamel (1990), The core competence of the organisation: Harvard Business Review.

Render, Barry and Ralph M. Stair (1990), Quantitative Analysis for Management (1st ed.). Mass.

Reve, T. and L.W. Stern (1986), "The relationships between interorganisational form, transaction climate, and economic preformance in vertical interfirm dyads," in *Marketing Channels*, L. Pellegrini and S. Reddy, eds. Lexington MA: Lexington Books.

Richardson, Hettie A., Marcia J. Simmering, and Michael S. Sturman (2009), "A Tale of Three Perspectives," Organizational Research Methods: Examining Post Hoc Statistical Techniques for Detection & Correction of Common Method Variance, 12 (4), 762-800.

Rindfleisch, A and C. Moorman (2001), "The acquisition and utilisation of information in new pproduct alliances: a strength of ties perspective," *Journal of Marketing*, 65 (2), 1-19.

Ritter, Thomas, and Hans Georg Germünden (1999), "Network competence and its impact on innovation success," *Journal of Business Research*, 15, 387-94.

Ritter, Thomas (2000), "A Framework for Analysing Interconnectedness of Relationships," *Industrial Marketing Management*, 29, 317-26.

Ritter, Thomas (2002), "Measuring Network Competence," *Journal of Business and Industrial Marketing,* 117 (2/3), 119-38.

Ritter, Thomas (1999), "The Networking Company," *Industrial Marketing Management*, 28, 467-79.

Ritter, Thomas and Hans Georg Germünden (2003), "Interorganisational relationships and networks: An overview," *Journal of Business Research*, 56 (9), 691-97.

Ritter, Thomas, Ian F. Wilkinson, and Wesley J. Johnston (2004), "Managing in Complex Business Networks," *Industrial Marketing Management*, 33, 175-83.

Robson, C (1995), Real World Research; a resource for social scientists (2nd ed.). Oxford: Blackwell.

Roethlisberger, F.J. and W.J. Dickson (1939), Management and the worker. Cambridge MA: Harvard University Press.

Rosen, Emanuel (2000), The Anatomy of Buzz (1st ed.). London: Harper Collins.

Rowley, T.J., D. Behrens, and D. Krackhardt (2000), "Redundant governance structures: an analysis of strucural and relational embeddedness," *Strategic Management Journal*, 21, 369-86.

Rumyantserva, Maria and Olga Tretyak (2003), "What is a Network: An Overview of Theoretical Explanations of Inte-Firm Cooperation," in Proceedings in the 19th Annual Industrial marketing and Purchasing (IMP) Conference. Lausanne, Switzerland.

Rust, Roland T., Tim Ambler, and Rajendra K. Srivastava (2004), "Measuring Marketing Productivity: Current Knowledge and Future Directions," *Journal of Marketing*, 68, 76-89.

Salancik, G.R. (1995), "Wanted a good network thheory of organisation," *Administrative Science Quarterly* 40, 345-49.

Salant, Priscilla and Don A. Dillman (1994), How to Conduct Your Own Survey. New York: John Wiley & Sons.

Sarantakos, S. (1993), Social Research. Basingstoke: Macmillan Press.

Saunders, M, P. Lewis, and A. Thornhill (1997), Research methods for business students. London: Pitman Publishing.

Seevers, Matthew T., Steven J. Skinner, and Scott W. Kelley (2007), "A Social Network Perspective on Salesforce Ethics," Journal of Personal Selling and Sales Management, 4, 341-53.

Schonsheck, Jonathan (2000), "Business Friends: Aristotle, Kant and other Management Theorists on the Practice of Marketing," *Business Ethics Quarterly*, 10 (4), 897-911.

Seggie, Steven H, Erin Cavusgil, and Steven Phelan, E (2007), "Measurement of return on marketing investment: A conceptual frameworkand the future of marketing metrics," *Industrial Marketing Management*.

Sekaran, Uma (1992), Research Methods for Business (2nd ed.). Toronto: John Wiley & Sons.

Sharma, Subhash, Richard M. Durand, and Oded Gur-Arie (1981), "Identification and Analysis of Moderator Variables," *Journal of Marketing Research*, 18 (3), 291-320.

Sheth, Jagdish N. (1973), "A Model of Industrial Buyer Behaviour," *Journal of Marketing*, 37 (4), 50-56.

Sheth, Jagdish N., David M. Gardner, and Dennis E. Garrett (1988), Marketing Theory, Evolution and Evaluation. Chichester: John Wiley & Sons.

Shrivastava, R.K., L. Fahey, and H.K. Chistensen (2001), "The resource based view and marketing: The role of market based assets in gaining competetive advantage," *Journal of Management*, 27 (6), 777-802.

Slife, B D and R N Williams (1995), What's behind the research. London: Sage.

Snehota, Ivan (2003), "Market as Network; So What?," in Proceedings in the 19th Annual Industrial Marketing and Purchasing (IMP) Conference. Lausanne, Switzerland.

Snehota, Ivan (2011), "New Business Formation in Business Networks," *The IMP Journal,* 5 (1), 1-9.

Stern, Louis W. and T. Reve (1980), "Distribution channels as political economies: a framework for comparative analysis," *Journal of Marketing*, 44.

Stern, Louis W. (1996), "Relationships, Networks and the Three C's," in *Networks in Marketing*, Dawn Iacobucci, ed.

Steward, Michelle D., Beth A. Walker, Michael D. Hutt, and Ajith Kumar (2010), "The coordination strategies of high-performing salesppeople: internal working relationships that drive success," Journal of the Academy of Marketing Science, 38, 550-66.

Stokes, David and Wendy Lomax (2002), "Taking Control of Word of Mouth Marketing: the case of an Entrepreneurial Hotelier," *Journal of Small Business and Enterprise Development*, 9 (4), 349-57.

Sutherland, Sinclair (2008), "Official Labour Market Statistics."

Swan, Jackie, Sue Newell, Harry Scarborough, and Donald Hislop (1999), "Knowledge Management and Innovation: Networks and Networking," *Journal of Knowledge Management*, 3 (4), 262-75.

Teece, D.J., G. Pisano, and A. Shuen (1997), "Dynamic capabilities and strategic management," *Strategic Management Journal*, 18 (7), 341-54.

Terziovski, Mile (2003), "The Relationship between Networking Practice and Business Excellence: a Study of Small to Medium Enterprises," *Measuring Business Excellence*, 7 (2), 78-92.

Thorelli, Hans B. (1986), "Networks; Between Markets and Hierachies," *Strategic Management Journal*, 7, 37-51.

Thorgren, S, J. Wincent, and S Anokhin (2010), "The Importance of Compensating Strategic Board Members: A Contingency Approach," *British Journal of Management*, 21, 131-51.

Tongue, Jane (2004), "Networking Processes and Perceptions in Public Relations Consultancies," in Proceedings in the 20th Annual Industrial Marketing and Purchasing (IMP) Conference. Copenhagen, Denmark.

Tull, Donald S. and Del I. Hawkins (1976), Market Research: meaning, measurement and method. New York: Macmillan Publishing.

Turnbull, P.W. and M.T. Cunningham (1981), International Marketing and Purchasing. London: Macmillan Press.

Turnbull, P.W. and J.P. Valla (1986), Strategies for international industrial marketing. London: Croom Helm.

Üstüner, Tuba and David Gordes (2006), "Better Sales Networks," Harvard Business Review, 84 (7-8), 102-12.

Üstüner, Tuba and Dawn Iacobucci (2012), "Does Interorganisational Network Embeddedness Improve salespeople's Effectiveness? A Task Contingency Perspective," Journal of Personal Selling and Sales Management, 2, 187-205.

Uzzi, Brian (1997), "Social structure and competition in inter-firm networks: the paradox of embeddedness," *Administrative Science Quarterly*, 42 (1), 35-67.

Uzzi, Brian (1996), "The Sources and Consequences of Embeddedness for the Economic Performance of Organisations: The Network Effect," *American Sociological Review*, 61 (4), 674-98.

Van de Ven, A H (1976), "On the nature, formation, and maintenance of relations among organisations," *Academy of Management Review*, 1 (4), 24-36.

Walker, O.C. and R.W. Ruekert (1987), "Marketing's role in implementing business strategies," *Journal of Marketing*, 51 (July), 15-33.

Walter, A, M Auer, and Thomas Ritter (2006), "The impact of network capabilities and entrepreneurial orientation," *Journal of Business Venturing*, 21, 541-67.

Wang, Yong and Pervaiz K. Ahmed (2009), "The moderating effect of the business strategic orientation on eCommerce adoption: Evidence from UK family run SMEs," Journal of Strategic Information Systems, 1-15.

Wang, Yong, Pervaiz K. Ahmed, and Les Worrall (2004), "Understanding inter-firm networks: a theoretical review," *International Journal of Management Concepts and Philosophy*, 1 (1), 73-98.

Wang, Yong and Pat Costello (2009), "An investigation into Innovations in SMEs: Evidence from the West Midlands," *Journal of Entrepreneurship*, 18 (1), 65-93.

Wasserman, S and J Galaskiewicz (1994), Advances in social network analysis. Thousand Oaks CA: Sage.

Watson, J (2007), "Modeling the relationship between networking and firm performance," *Journal of Business Venturing*, 22, 852-74.

Weick, K.E. (1995), Sense making in organisations. Thousand Oaks CA: Sage.

Welch, Catherine and Ian Wilkinson (2002), "Idea Logics and Network Theoory in Business Marketing," Journal of Business to Business Marketing, 9 (3), 27-48.

Wellman, B. and S.D. Berkowitz (1988), Social structures: a network approach. Cambridge: Cambridge University Press.

Westphal, J. D., M. -D. L. Seidel, and K. J. Stewart (2001), "Second Order Imitation: Uncovering Latent Effects of Board Network Ties," *Administrative Science Quarterly*, 46 (4), 717-47.

Widgery, A (2010), "Business Scene," (accessed 25 May 2010, [available at http://www.business-scene.com/networks].

Wiley, James, Ian Wilkinson, and Louise Young (2006), "The nature role and impact of connected relations: a copmparrison of Chinese suppliers' perspectives," *Journal of Business and Industrial Marketing,* 21 (1).

Wilkinson, Ian (2001), "A history of Network and Channels thinking in Marketing in the 20th Century," *Australian Marketing Journal*, 9 (2), 25-52.

Wilkinson, Ian F., L G Mattsson, and Geoff Easton (2000), "International Competitiveness and Trade Promotion Policy from a Network Perspective," *Journal of World Business*, 35 (3), 275-90.

Wilkinson, Ian F. and Louise C. Young (2005), "Social Networks of Researchers in B2B Marketing: A Case Study of the IMP Group 1984-1999," *Journal of Business to Business Marketing*, 12 (1), 3-32.

Wilkinson, Ian and Louise Young (2002), "On Cooperating Firms, Relations and Networks," *Jounal of Business Research*, 55, 123-32.

Willer, D (1999), Network Exchange Theory. New York: Greenwood Publishing Group.

Wilson, David T. (1995), "An Integrated Model of Buyer Seller Relationships," *Journal of the Academy of Marketing Science*, 23, 336-46.

Wilson, Elizabeth J. and Charles C. Nielson (2000), "Cooperation and Continuity in Strategic Business Relationships," *Journal of Business to Business Marketing*, 8, 1-24.

Wilson, Jerry (1991), Word of Mouth Marketing (1st ed.). New York: John Wiley & Sons.

Wincent, Jerry (2005a), "Does size matter - a study of firm behaviour and outcomes in strategic networks," *Journal of Small Business and Enterprise Development*, 12 (3), 391-412.

Wincent, J. (2005b), "Does size matter? a study of firm behaviour in strategic networks," *Journal of Small Business and Enterprise Development*, 12 (3), 437-53.

Womack, James P., Daniel T. Jones, and Daniel Roos (1990), The Machine that Changed the World. New York: Simon & Schuster.

Worrall, Les (2008), "Management research and management practice: is the relevance gap closing?," *Int. J. Management Concepts and Philosophy*, 3 (1), 1-18.

Worrall, Les (2007), "Transforming regional economic performance through business transformation," *Int. J. of Management Practice* 2(4), 324-44.

Wuyts, S and I. Geyskens (2005), "The formation of Buyer-Supplier Relationships: Detailed contract drafting and close partner selection," *Journal of Marketing*, 69 (4), 103-107.

Young, Louise and Ian F. Wilkinson (2004), "Evolution of Networks and Cognitive Balance," in Proceedings in the 20th Annual Industrial Marketing and Purchasing (IMP) Conference. Copenhagen, Denmark.